THE LANCET.

A Journal of British and Foreign Medicine, Surgery, Obstetrics, Physiology, Chemistry, Pharmacology, Public Health, and News.

TELEGRAPHIC ADDRESS—LANCET, LONDON [ONE HUNDRED AND SIXTY-EIGHT PAGES.] TELEPHONE NUMBER—5356 GERRARD

No. XV OF VOL. I., 1907. No. 4363. Vol. CLXXII. LONDON, SATURDAY, APRIL 13, 1907. PRICE 7d.; POST FREE, 7½d. [Pp. 120+48.

NEW WORK. 240 pp. Illustrated. 5s. net.

SPINAL CURVATURES: The General Principles of their Mechanical Treatment. With a Critical Analysis of the Gymnastic Theories.

"We must not fail to recognise, and to record our recognition of, the care and fulness with which the author has treated his subject. The book will be of value as containing the best exposition of this method of treatment."—THE LANCET.

By HEATHER BIGG, F.R.C.S. Ed.

J. & A. Churchill, London.

This day. Third Edition. Pp. viii.+260. Price 5s. net.

THE DIAGNOSIS and MODERN TREATMENT of PULMONARY CONSUMPTION. By ARTHUR LATHAM, M.A., M.D. Oxon., M.A. Cantab., F.R.C.P. Lond., Physician and Lecturer on Medicine, St. George's Hospital; Senior Assistant Physician at the Brompton Hospital for Consumption and Diseases of the Chest.

London: Baillière, Tindall & Cox.

This day. Fifth Edition. Pp. xxviii.+340 Price 10s. 6d. net.

TREATMENT by HYPNOTISM and SUGGESTION; or Psycho-therapeutics. By C. LLOYD TUCKEY, M.D. Aberd. With an Introduction by Sir FRANCIS R. CRUISE, M.D., Hon. Physician to the King in Ireland.

London: Baillière, Tindall & Cox, 8, Henrietta street, Covent Garden.

ELLIS'S DEMONSTRATIONS of ANATOMY: Being a Guide to the Knowledge of the Human Body by Dissection. Edited by CHRISTOPHER ADDISON, M.D., F.R.C.S., Lecturer on Anatomy at Charing Cross Hospital Medical School. Twelfth Edition. With over 300 Illustrations. Small 8vo. 12s. 6d. net.

BRITISH MEDICAL JOURNAL.—"Dr. Addison is certainly to be congratulated on the result of his attempt to make an old and valued book again available for general use."

London: Smith, Elder, & Co., 15, Waterloo-place, S.W.

A JUNIOR COURSE of PRACTICAL ZOOLOGY. By the late A. MILNES MARSHALL, M.D., D.Sc., M.A., F.R.S., Professor in the Victoria University, Beyer Professor of Zoology in Owens College; and the late C. HERBERT HURST, Ph.D., Lecturer in the Victoria University, &c. Sixth Edition. Revised by F. W. GAMBLE, D.Sc., Lecturer in Zoology the University of Manchester. With Illustrations. Crown 8vo. 10s. 6d.

LANCET.—"The fact that this handbook has reached a Sixth Edition is a better testimony to its efficiency than could be furnished by any reviewer."

London: Smith, Elder, & Co., 15, Waterloo-place, S.W.

Nearly Ready. Demy 8vo, cloth. 3s. 6d. net.

HAY FEVER, HAY ASTHMA, and its TREATMENT.

By WILLIAM LLOYD, Surgeon in Charge of the Nose, Ear, and Throat Department, Kensington General Hospital, &c.

London: H. J. Glaisher, 57, Wigmore street, W.

Just published. Third Edition. Entirely rewritten. Demy 8vo. Price 5s. net, by post 5s. 4d.

INDIGESTION: The DIAGNOSIS and TREATMENT of the FUNCTIONAL DERANGEMENTS of the STOMACH. With an Appendix on the preparation of food by cooking, with especial reference to its use in the treatment of affections of the stomach. By GEORGE HERSCHELL, M.D. Lond.

H. J. Glaisher, 57, Wigmore street, W.

This day. Royal 8vo, cloth, gilt top. 18s. net. With many Engravings and Plates in Colour.

EYE INJURIES and their TREATMENT. By A. MAITLAND RAMSAY, M.D., Author of Atlas of External Diseases of the Eye, &c.

Glasgow: James MacLehose & Sons, Publishers to the University. London and New York: Macmillan & Co., Ltd.

By W. ARBUTHNOT LANE, M.S.

CLEFT PALATE and HARE LIP. New Edition, in large clear type, demy 4to. 5s.

"Mr. Lane makes out a clear case for early and almost immediate operation. To sum up: Mr. Lane has absolutely proved his contention, and rendered it quite clear, that early operation is the right course on every ground, developmental and otherwise; and, further, that delay in performing staphylorrhaphy until the third to the sixth year is fraught with most harmful results, and should not be permitted."—BRITISH MEDICAL JOURNAL, Jan. 27th, 1906.

OPERATIVE TREATMENT of FRACTURES. New Edition, uniform with above, 7s. 6d.

THE OPERATIVE TREATMENT of CHRONIC CONSTIPATION. New Edition, uniform with above, 2s. 6d.

The Medical Publishing Company, Ltd., 22½, Bartholomew Close, E.C.

Now Ready, Second Edition, thoroughly Revised, royal 8vo, 768 pp. Illustrated with 139 Wood Engravings from Original Drawings, many printed in Colours. Price 7s. 6d. net.

SURFACE and SURGICAL ANATOMY. (Forming Section IV. of Cunningham's Text-Book of Anatomy.) By HAROLD J. STILES, M.B., F.R.C.S. Ed.

Young J. Pentland.

Edinburgh: Teviot-place. London: 21, Warwick-lane, E.C.

Now Ready, Fourth Edition, Revised and Enlarged. Crown 8vo, cloth, pp. xx.-856, with 378 Illustrations in the Text. Price 12s. 6d. net.

OUTLINES of ZOOLOGY. By J. ARTHUR THOMSON, M.A., Regius Professor of Natural History in the University of Aberdeen.

Young J. Pentland.

Edinburgh: Teviot-place. London: 21, Warwick-lane, E.C.

SAUNDERS' NEW BOOKS.

SOBOTTA & McMURRICH'S HUMAN ANATOMY

IN THREE VOLUMES

TWO VOLUMES JUST ISSUED

See Advertising Page 3.

THE PRESCRIBER. A Monthly Journal devoted to the Newer Remedies. 3s. 6d. per annum; single copies 4½d., post free. "The Prescriber" Office, 137, George-street, Edinburgh.

Demy 8vo. Price 1s. net.

TREATMENT of PUERPERAL INFECTION. By FREDERICK J. McCANN, M.D. Edin., F.R.C.S. Eng., M.R.C.P. Lond.

London: Adlard & Son, Bartholomew Close, E.C.

567 pages, with 249 Illustrations. Royal 8vo. 15s. net.

LAWSON.—DISEASES of the EYES. Sixth Edition. Revised and Rewritten by ARNOLD LAWSON, F.R.C.S., Assist. Surg., Roy. Lond. Ophth. Hosp.

London: Smith, Elder & Co., 15, Waterloo-place, S.W.

Pp. x.+88. With 19 Illustrations. Price 3s. 6d. net.

THE SIGMOIDOSCOPE. A Clinical Handbook on the Examination of the Rectum and Pelvic Colon. By P. LOCKHART MUMMERY, F.R.C.S., Surgeon to King Edward VII. Hosp. for Officers; Assistant Surg., St. Mark's Hospital for Diseases of the Rectum.—Baillière, Tindall & Cox. Covent Garden, London.

BY C. MANSELL MOULLIN, M.D. Oxon., F.R.C.S., Senior Surgeon and Lecturer on Surgery at the London Hospital; late Examiner in Surgery at the Universities of Oxford and Cambridge.

ENLARGEMENT of the PROSTATE. Third Edition. Price 6s.

INFLAMMATION of the BLADDER and URINARY FEVER. Price 5s.

London: H. K. Lewis, 136, Gower-street.

WHEN to OPERATE in INFLAMMATION of the APPENDIX. Second Edition. Price 2s. 6d.

THE SURGICAL TREATMENT of GASTRIC ULCER. Price 2s. 6d.

London: J. Bale & Danielsson, Ltd., 83-89, Gt. Titchfield-street.

Recently published, price 3s. 6d. post free.

UTERINE FIBROIDS. By BEDFORD FENWICK, M.D., Gynæcologist to the Hospital for Women, Soho-square; formerly Senior Assistant Physician to the City of London Hospital for Diseases of the Chest.

"A valuable addition to gynæcological literature."—THE MEDICAL TIMES.

By the same Author.

COMMON COMPLAINTS of WOMEN.

"Eminently practical."—THE MEDICAL TIMES. 3s. 6d. post free.

COMMON DISEASES of the RECTUM and ANUS. By CECIL H. LEAF, M.A., M.B. (Cantab.), F.R.C.S. (Eng.), Surgeon to the Cancer Hospital and to the Gordon Hospital.

"The teaching is well up-to-date as well as clear and concise."—THE MIDLAND MEDICAL JOURNAL.

3s. 6d. post free.

H. H. Blakeley, 11, Adam Street, Strand, London, W.C.

Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; Mr. E. Arnold, Lond.; Dr. B. Anningson, Cambridge; A. R. G.; A Practitioner.

B.—Dr. L. A. Bidwell, Lond.; Mr. F. A. Brockhaus, Lond.; Sir James Barr, Liverpool; Dr. H. F. Bashford, Lond.; Blackburn Infirmary, Secretary of; Mr. C. Birchall, Liverpool; Dr. D. Bower, Bedford; Bristol Royal Infirmary, Secretary of; Mr. W. E. G. Barnes, Lond.; Dr. Noel Bardswell, Midhurst; Mr. Harold Burrows, Lond.; Mr. Francis G. Bennett, Great Glenn; Dr. J. S. Bolton, Nottingham; Birkenhead Union, Clerk of; Dr. J. L. Bunch, Lond.; Messrs. W. H. Bailey and Sons, Lond.; Messrs. C. Barker and Sons, Lond.

C.—Dr. A. H. Copeman, Brighton; Dr. G. A. Crace-Calvert, Ruthin; Messrs. Cornish Bros., Birmingham; Cornwall County Asylum, Bodmin, Clerk to the; Central London Throat and Ear Hospital, Secretary of; Chesterfield Hospital, Secretary of; Messrs. Cassell and Co. Lond.; Mr. H. P. Clemetson, Ashford; *Chirurgia*, Moscow, Editor of; Dr. Harry Campbell, Lond.; C. W.

D.—Mr. R. De Martini, Maidstone; Mr. T. Dixon, Lond.; Derbyshire Royal Infirmary, Derby, Secretary of; Mr. H. V. McMahon Dillon, Lond.; Professor A. F. Dixon, Dublin.

E.—Mr. Walter Edmunds, Lond.; Mr. Walter N. Edwards, Lond.; Messrs. Evans, Sons, Lescher, and Webb, Lond.; Ethics.

F.—Fife and Kinross District Asylum, Cupar Fife, Clerk to the; The Frederic Harris Co., Lond.; F. W. D. M. G.; Forward Publicity Co., Coventry; Messrs. Fromy, Rogée, and Co., St. Jean d'Angely; Dr. C. Fraser, Dunfermline.

G.—Mr. W. Griscwood, Liverpool; Dr. A. K. H. Gordon, Manchester; Mr. Alfred A. Good, Nottingham; Gloucester General Infirmary, Secretary of; Mr. Hamilton Grepe, Lond.

H.—Mr. C. W. Hogarth, Lond.; Messrs. Hancocks, Manchester; Mr. A. Hobson, Rotherham; Hospital Building Fund, Harrow, Hon. Secretary of.

J.—Mr. Claude W. Johnson; Dr. F. H. Jacob, Nottingham; J. W. L.

K.—Messrs. S. Kutnow and Co., Lond.; Messrs. Knight, Frank, and Rutley, Lond.; Kny Scheerer Co., New York; Mr. R. Lawford Knaggs, Leeds; Mr. George Kent, Lond.; Messrs. R. A. Knight and Co., Lond.

L.—Mr. H. K. Lewis, Lond.; Messrs. Luzac and Co., Lond.; Lancashire County Asylum, Winwick, Clerk to the; Surgeon L. Lindop, R.N., Harwich; Dr. W. Lindley, Los Angeles, U.S.A.; Mr. R. T. Lang, Lond.; London and Counties Medical Protection Society, General Secretary of; London News Agency; The Little Gallery, Lond.; Mr. H. H. Lacy, Warwick; Lynhayr, Ltd., Mitcham; Mr. W. A. Lynass, Belfast.

M.—Mr. A. W. Moore, Lond.; Dr. Donald J. Munro, Lond.; Mr. M. D. Makuna, Dinas; Dr. James Meredith, Wellington; Mr. W. J. Montgomery, Hanwell; M. D.; Mr. E. Merck, Lond.; Captain R. McCarrison, I.M.S., Gilgit, India; Messrs. May and Rowden, Lond.

N.—Dr. Fr. Neugebauer, Warsaw; Dr. Athelstone Nobbs, Lond.; Newport and Monmouthshire Hospital, Secretary of; National Dental Hospital, Lond., Secretary of; Messrs. Neyroud and Sons, Lond.; National Service League, Lond., Secretary of; North Staffordshire Infirmary, Stoke-on-Trent, Secretary of; Mr. H. Needes, Lond.

O.—Professor W. Osler, Oxford.

P.—Mr. Y. J. Pentland, Edinburgh; Portsmouth and South Hants Eye and Ear Infirmary, Secretary of; Mr. J. J. Pickles, Leeds; Dr. Owen H. Peters, Bagthorpe; Messrs. Parke, Davis, and Co., Lond.; *The Prescriber*, Edinburgh, Publisher of; Messrs. Peek, Frean, and Co., Lond.; Mr. Bingley G. Pullin, Sidmouth; Dr. E. A. Peterson, Mobile, U.S.A.; Messrs. Peacock and Hadley, Lond.; Pom-Pom.

R.—Professor J. Ritchie, Oxford; Mr. A. W. Roberts, Torquay; Dr. J. D. Rolleston, Lond.; Dr. W. Ford Robertson, Edinburgh; Mrs. Roche, Eltham; Royal Mail Steam Packet Co., Lond., Secretary of; Messrs. Reynolds and Branson, Leeds; Messrs. E. J. Reid and Co., Lond.; Royal Victoria Hospital, Newcastle-on-Tyne, Secretary of; Mr. A. F. Blagdon Richards, Swansea; Mr. Arthur G. L. Reade, Lond.; Royal National Orthopædic Hospital, Lond.; Messrs. Reynell and Son, Lond.

S.—Dr. W. C. Sullivan, Lond.; Sheffield Union, Clerk to the; St. Mungo's College, Glasgow; Dr. G. C. Simmons, Liverpool; Messrs. W. B. Saunders and Co., Lond.; Dr. G. H. Savage, Lond.; Messrs. Spiers and Pond, Lond.; Star Engineering Co., Wolverhampton; Staffordshire General Infirmary, Stafford, Secretary of; Lieutenant-Colonel B. Spencer, I.M.S., Bombay; Dr. A. F. Savill, Lond.; Mr. Herbert Sievcking, Lond.; Dr. J. Snowman, Lond.; Mr. A. G. Stewart, Garmouth; Messrs. G. Street and Co., Lond.

T.—Mr. M. A. Teale, Leeds; Mr. T. W. Telford, Whitehaven; Mr. J. L. Tayler, Lond.; Torbay Hospital, Torquay, Secretary of.

W.—Mr. S. P. Wills, Mumbles; Westminster Hospital Medical School, Lond., Secretary of; Wolverhampton General Hospital, Secretary of; Wrexham Infirmary, Secretary of; Mr. Ernest E. Williams, Wimbledon; Dr. Leonard Williams, Hertford; Dr. Ernest W. White, Lond.; Dr. Charles J. Whalen, Chicago; Mr. W. Ernest Wright, Croydon; Dr. Alfred H. Williams, Harrow; Professor K. F. Wenckebach, Groningen; Messrs. W. Wood and Co., New York; Mr. W. A. Wharram, Leeds; Mr. W. H. Williams, Sherborne; Mr. R. Walker, Aberdeen; Mr. J. Williams, Bradford; West London Hospital, Secretary-Superintendent of.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. J. Angell, Manchester; Ashton-under-Lyne District Infirmary, Secretary of; A. R. B.; A. L.; Apollinaris Co., Lond.; Dr. T. B. Adam, Brechin; A. R. G.

B.—Mr. H. N. Baron, Orford; Mr. J. T. Brett, Melbourne; Messrs. Broadbent and Co., Huddersfield; Messrs. Blink and Sons, Ramsgate; Messrs. Boulton and Paul, Norwich; Dr. Hugh Boyd, Bendigo, Australia; Dr. B.; Mr. R. W. Burkitt, Athenry; Messrs. C. C. Bogler and Co., Lond.

C.—Mr. M. Cheale, Bournemouth; Messrs. T. Cook and Son, Bombay; Carnarvonshire Infirmary, Bangor, Secretary of; Miss L. Collins, Lond.; Messrs. J. W. Cooke and Co., Lond.; Messrs. T. Christy and Co., Lond.

D.—Dr. M. Davies, Birkenhead; Mr. W. A. Davis, Swansea; Devonshire Hospital, Buxton, Secretary of; D. J. T.; D. H.

E.—Messrs. Emery and Son, Hove; Mr. G. H. Eyre, Rugby; Miss Annie R. Edwards, Dormansland; E. P.; Eccles and Patricroft Hospital, Secretary of.

F.—Dr. C. E. Fish, Ruthin; Dr. H. Fraser, Kuala Lumpur, Malay States; F. B. M. C.; F. W.; F. G.

G.—Dr. W. C. Gavin, Dublin; Messrs. Grimwade, Ridley, and Co., Lond.; Messrs. W. Gaymer and Son, Attleborough; Dr. F. Grauer, New York.

H.—Dr. F. W. Hewitt, Lond.; Mr. P. R. Hoyland, Rotherham; Dr. R. J. Howard, Lond.; Messrs. C. J. Hewlett and Son, Lond.; Dr. G. M. Harston, Hong Kong; Messrs. C. Hearson and Co., Lond.; Mr. W. Hart, Lond.; Messrs. Hooper and Co., Lond.; Dr. W. J. Harris, Shaftesbury; Messrs. Hedges and Butler, Lond.; Messrs. Haasenstein and Vogler, Cologne; Mr. W. B. Harris, Quorn.

I.—Ingham Infirmary, South Shields, Secretary of; I. J.

J.—Mr. J. Joule, Sampford Peverell; J. E. W.; J. F. W.; J. R.; J. H., Lond.

K.—Lieutenant-Colonel H. W. Kiallmark, R.A.M.C., Lond.; K.; Battersea Bridge-road; Surgeon A. B. Kelsey, R.N., Devonport.

L.—Mr. H. Littlewood, Lond.; Dr. S. C. Lawrence, Lond.; Miss Lemon, Edinburgh; Dr. R. J. Lytle, Southsea.

M.—Mr. A. H. Mayne, Manchester; Manchester Guardians, Clerk to the; Dr. K. A. Moody-Stuart, Edinburgh; Lieutenant R. C. MacWatters, I.M.S., Peshawar; Dr. D. M. MacLeod, Wakefield; Mr. S. P. Mukerjee, Nashipur; Mr. G. B. Michell, Fleet; M. B.; Medicus, Gravesend; Messrs. Mate and Son, Bournemouth; Dr. D. R. Mitchell, Blaenavon; Mr. A. Mackenzie, Alness; Dr. B. R. Myers, Lond.; Dr. J. Merson, Hull.

N.—Sir Henry Norbury, Eltham; Messrs. Nicolay and Co., Lond.; Mr. J. C. Needes, Lond.; Mr. H. A. B. Noble, Ndola, North-West Rhodesia.

O.—Dr. A. B. Olsen, Caterham.

P.—Peckham House, Lond., Medical Superintendent of.

R.—Dr. T. W. Reid, Canterbury; Royal Boscombe Hospital, Secretary of; R. K. G.; Mr. C. A. Ryde, Brussels.

S.—Dr. B. H. Spilsbury, Lond.; Scholastic, Clerical, &c., Association, Lond., Secretary of; Messrs. W. H. Smith and Son, Manchester; Smith's Advertising Agency, Lond.; Dr. J. Stewart, Leeds; S. D. S.; S. H. R.; S. S.; Dr. R. W. Saunders, St. Louis.

T.—Mr. J. Thin, Edinburgh; Mr. P. Templeton, Worthing; Teignmouth Hospital, Secretary of.

U.—Mr. H. Upcott, Hull.

V.—V., Hampstead.

W.—Dr. J. R. Wilson, Lond.; Mr. J. Ward, Lond.; W. L.; Mr. T. Wakefield, Lond.; W. P.; W. B.; W. M. K.; Mr. W. F. A. Walker, Dinas Mawddwy; Messrs. F. Williams and Co., Lond.; Mr. J. C. Walker, Rochdale.

Z.—Messrs. A. and M. Zimmermann, Lond.

EVERY FRIDAY. **THE LANCET.** PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0 5 0
Official and General Announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements and Situations Vacant	Ditto	0 4 6
	Every additional Line	0 0 6

Situations wanted: First 30 words, 2s. 6d.; per additional 8 words, 6d.

Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Cheque and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager. Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France.—J. ASTIER, 31, Rue Bapts, Asnières, Paris.

THE LANCET.

A Journal of British and Foreign Medicine, Surgery, Obstetrics, Physiology, Chemistry, Pharmacology, Public Health, and News.

TELEGRAPHIC ADDRESS—LANCET, LONDON

[ONE HUNDRED AND SIXTY-EIGHT PAGES.]

TELEPHONE NUMBER—5356 GERRARD

No. XV OF VOL. I., 1907. No. 4363. Vol. CLXXII.

LONDON, SATURDAY, APRIL 13, 1907.

PRICE 7d.; POST FREE, 7½d. [Pp. 120+48.

New Work. 240 pp. Illustrated. 5s. net.

SPINAL CURVATURES: The General Principles of their Mechanical Treatment. With a Critical Analysis of the Gymnastic Theories.

"*We must not fail to recognise, and to record our recognition of, the care and fulness with which the author has treated his subject. The book will be of value as containing the best exposition of this method of treatment.*"—THE LANCET.

By HEATHER BIGG, F.R.C.S. Ed.

J. & A. Churchill, London.

This day. Third Edition. Pp. viii.+260. Price 5s. net.

THE DIAGNOSIS and MODERN TREATMENT of PULMONARY CONSUMPTION. By ARTHUR LATHAM, M.A., M.D. Oxon., M.A. Cantab., F.R.C.P. Lond., Physician and Lecturer on Medicine, St. George's Hospital; Senior Assistant Physician at the Brompton Hospital for Consumption and Diseases of the Chest.

London: Baillière, Tindall & Cox.

This day. Fifth Edition. Pp. xxviii.+340. Price 10s. 6d. net.

TREATMENT by HYPNOTISM and SUGGESTION; or Psycho-therapeutics. By C. LLOYD TUCKEY, M.D. Aberd. With an Introduction by Sir FRANCIS H. CRUISE, M.D., Hon. Physician to the King in Ireland.

London: Baillière, Tindall & Cox, 8, Henrietta street, Covent Garden.

ELLIS'S DEMONSTRATIONS of ANATOMY: Being a Guide to the Knowledge of the Human Body by Dissection. Edited by CHRISTOPHER ADDISON, M.D., F.R.C.S., Lecturer on Anatomy at Charing Cross Hospital Medical School. Twelfth Edition. With over 300 Illustrations. Small 8vo. 12s. 6d. net.

BRITISH MEDICAL JOURNAL.—"Dr. Addison is certainly to be congratulated on the result of his attempt to make an old and valued book again available for general use."

London: Smith, Elder, & Co., 15, Waterloo-place, S.W.

A JUNIOR COURSE of PRACTICAL ZOOLOGY. By the late A. MILNES MARSHALL, M.D., D.Sc., M.A., F.R.S., Professor in the Victoria University, Beyer Professor of Zoology in Owens College; and the late C. HERBERT HURST, Ph.D., Lecturer in the Victoria University, &c. Sixth Edition. Revised by F. W. GAMBLE, D.Sc., Lecturer in Zoology the University of Manchester. With Illustrations. Crown 8vo. 10s. 6d.

LANCET.—"The fact that this handbook has reached a Sixth Edition is a better testimony to its efficiency than could be furnished by any reviewer."

London: Smith, Elder, & Co., 15, Waterloo-place, S.W.

Nearly Ready. Demy 8vo, cloth. 3s. 6d. net.

HAY FEVER, HAY ASTHMA, and its TREATMENT.

By WILLIAM LLOYD,

Surgeon in Charge of the Nose, Ear, and Throat Department, Kensington General Hospital, &c.

London: H. J. Glaisher, 57, Wigmore street, W.

Just published. Third Edition. Entirely rewritten. Demy 8vo. Price 5s. net, by post 5s. 4d.

INDIGESTION: The DIAGNOSIS and TREATMENT of the FUNCTIONAL DERANGEMENTS of the STOMACH. With an Appendix on the preparation of food by cooking, with especial reference to its use in the treatment of affections of the stomach. By GEORGE HERSCHELL, M.D. Lond.

H. J. Glaisher, 57, Wigmore-street, W.

This day. Royal 8vo, cloth, gilt top. 18s. net. With many Engravings and Plates in Colour.

EYE INJURIES and their TREATMENT. By A. MAITLAND RAMSAY, M.D., Author of Atlas of External Diseases of the Eye, &c.

Glasgow: James MacLehose & Sons, Publishers to the University.

London and New York: Macmillan & Co., Ltd.

By W. ARBUTHNOT LANE, M.S.

CLEFT PALATE and HARE LIP. New Edition, in large clear type, demy 4to, 5s.

"Mr. Lane makes out a clear case for early and almost immediate operation. To sum up: Mr. Lane has absolutely proved his contention, and rendered it quite clear, that early operation is the right course on every ground, developmental and otherwise; and, further, that delay in performing staphylorrhaphy until the third to the sixth year is fraught with most harmful results, and should not be permitted."—BRITISH MEDICAL JOURNAL, Jan. 27th, 1906.

OPERATIVE TREATMENT of FRACTURES. New Edition, uniform with above, 7s. 6d.

THE OPERATIVE TREATMENT of CHRONIC CONSTIPATION. New Edition, uniform with above, 2s. 6d.

The Medical Publishing Company, Ltd., 22½, Bartholomew Close, E.C.

Now Ready, Second Edition, thoroughly Revised, royal 8vo, 288 pp. Illustrated with 139 Wood Engravings from Original Drawings, many printed in Colours. Price 7s. 6d. net.

SURFACE and SURGICAL ANATOMY. (Forming Section IV. of Cunningham's Text-Book of Anatomy.) By HAROLD J. STILES, M.B., F.R.C.S. Ed.

Young J. Pentland.

Edinburgh: Teviot-place. London: 21, Warwick-lane, E.C.

Now Ready, Fourth Edition, Revised and Enlarged. Crown 8vo, cloth, pp. xx.-856, with 378 Illustrations in the Text. Price 12s. 6d. net.

OUTLINES of ZOOLOGY. By J. ARTHUR THOMSON, M.A., Regius Professor of Natural History in the University of Aberdeen.

Young J. Pentland.

Edinburgh: Teviot-place. London: 21, Warwick-lane, E.C.

SAUNDERS' NEW BOOKS.

SOBOTTA & McMURRICH'S HUMAN ANATOMY

IN THREE VOLUMES

TWO VOLUMES JUST ISSUED

See Advertising Page 3.

THE PRESCRIBER. A Monthly Journal devoted to the Newer Remedies. 3s. 6d. per annum; single copies 4½d., post free. "The Prescriber" Office, 131, George-street, Edinburgh.

Demy 8vo. Price 1s. net.

TREATMENT of PUERPERAL INFECTION. By FREDERICK J. McCANN, M.D.Brux., F.R.C.S.Eng., M.R.C.P.Lond.

London: Adlard & Son, Bartholomew Close, E.C.

587 pages, with 249 Illustrations. Royal 8vo. 12s. net.

LAWSON.—DISEASES of the EYES. Sixth Edition. Revised and Rewritten by ARNOLD LAWSON, F.R.C.S., Assist. Surg., Roy. Lond. Ophth. Hosp.

London: Smith, Elder & Co., 15, Waterloo-place, S.W.

Pp. x.+88. With 19 Illustrations. Price 3s. 6d. net.

THE SIGMOIDOSCOPE. A Clinical Handbook on the Examination of the Rectum and Pelvic Colon. By P. LOCKHART MUMMERY, F.R.C.S., Surgeon to King Edward VII. Hosp. for Officers; Assistant Surg., St. Mark's Hospital for Diseases of the Rectum.—Baillière, Tindall & Cox, Covent Garden, London.

BY C. MANSELL MOULLIN, M.D. Oxon., F.R.C.S., Senior Surgeon and Lecturer on Surgery at the London Hospital; late Examiner in Surgery at the Universities of Oxford and Cambridge.

ENLARGEMENT of the PROSTATE. Third Edition. Price 6s.

INFLAMMATION of the BLADDER and URINARY FEVER. Price 5s.

London: H. K. Lewis, 136, Gower-street.

WHEN to OPERATE in INFLAMMATION of the APPENDIX. Second Edition. Price 2s 6d.

THE SURGICAL TREATMENT of GASTRIC ULCER. Price 2s. 6d.

London: J. Bale & Danielsson, Ltd., 83-89, Gt. Titchfield-street.

Recently published, price 3s. 6d. post free.

UTERINE FIBROIDS. By BEDFORD FENWICK, M.D., Gynæcologist to the Hospital for Women, Soho-square; formerly Senior Assistant Physician to the City of London Hospital for Diseases of the Chest.

"A valuable addition to gynæcological literature."—THE MEDICAL TIMES.

By the same Author.

COMMON COMPLAINTS of WOMEN.

"Eminently practical."—THE MEDICAL TIMES.

3s. 6d. post free.

COMMON DISEASES of the RECTUM and ANUS. By CECIL H. LEAF, M.A., M.B. (Cantab.), F.R.C.S. (Eng.), Surgeon to the Cancer Hospital and to the Gordon Hospital.

"The teaching is well up-to-date as well as clear and concise."—THE MIDLAND MEDICAL JOURNAL.

3s. 6d. post free.

H. K. Blakeley, 11, Adam Street, Strand, London, W.C.

THE LANCET is registered as a Newspaper. All rights reserved.

Bactericidal Reports and Samples will be sent on application.

5/- per Gallon. (Packages extra.)

"Sanitas" 1/- PINT BOTTLES

Disinfecting Fluid.

COLOURLESS, FRAGRANT, NON-POISONOUS.

ALSO POWDER, SOAPS, EMBROCATION, ETC. PAMPHLET POST FREE.

THE "SANITAS" CO., LTD., LONDON, E.

The Standard Antiseptic Wash, Air Purifier, Oxidant, and Bactericide for use in Surgery and for Sick-room Disinfection.

5/- per Gallon. (Packages extra.)

By Appointment to H.M. the King.

The Non-toxic Cyllin Bactericide.

(Medical)

Has a guaranteed Rideal-Walker Co-efficient of 20.0.

It is therefore equal to Perchloride of Mercury as a bactericide. (*Vide "The Medical Press," Feb.* 14, 1906.)

Preparations of Cyllin:—

Cyllin Capsules (palatinoids)—Recommended for Gastric or Intestinal Antisepsis.

Cyllin Syrup—For use where indicated in Infantile Diarrhœa.

Cyllin Inhalant—For use with Cyllin Inhalator in suppurative conditions of the bronchial passages, &c.

Lano-Cyllin—For use in Eczema, Pruritus, and other Inflammatory conditions of the Skin.

Cyllin Pastilles—Antiseptic Throat Lozenges; invaluable for purposes of mouth hygiene

Cyllin Dusting Powder, Soaps, Lint, Wool, Gauze, etc.

See Pamphlet entitled "Standard Chemical Disinfectants." Copies, together with working Samples, sent gratis and postage paid on applying to

Jeves' Sanitary Compounds Co., Ltd.,

64, Cannon Street, London, E.C.

DEFORMITIES OF THE FEET

RECTIFIED BY *SIGHTLY* APPLIANCES.

SHORT LEG

CONCEALED so that Ordinary Shoes may be used.

FLAT FOOT

RELIEVED (and often Cured).

See "MECHANICAL ORTHOPÆDICS,"

FULLY ILLUSTRATED WITH PHOTOGRAPHS AND RADIOGRAPHS, FREE TO MEMBERS OF THE PROFESSION, FROM THE PUBLISHERS—

THE O'CONNOR EXTENSION CO.,

Surgical Mechanicians to His Majesty's Government,

Telephone: 2142 GERRARD.] 2, BLOOMSBURY ST., LONDON W.C. [Manager: PERCY J. GUNTHORP.

The Lumleian Lectures
ON
THE INCREASE OF INSANITY.

Delivered before the Royal College of Physicians of London on March 14th, 19th, and 21st,

BY G. H. SAVAGE, M.D. LOND., F.R.C.P. LOND.,

CONSULTING PHYSICIAN FOR, AND LATE LECTURER ON, MENTAL DISEASES, GUY'S HOSPITAL; CONSULTING PHYSICIAN TO THE IDIOT ASYLUM, EARLSWOOD.

LECTURE III.[1]

Delivered on March 21st.

MR. PRESIDENT, FELLOWS, AND GENTLEMEN,—The next generally accepted cause of insanity is alcoholic intemperance. That this is a potent cause, not only of actual insanity but of nervous weakness and instability in the individual and in his offspring, must be admitted. And there is a generally accepted belief that the character of the alcohol taken to a certain extent affects the results, so that those who consume the more potent alcoholic liquids suffer most nervously. It was till quite recently looked upon as an established fact that with higher wages and the increased consumption of alcohol, especially in its stronger forms, there was a definite increase in the pauper insane. This may have been true, but, as I shall point out later, the increase of insanity at the present time certainly bears no actual relationship to the consumption of alcohol. There is no doubt whatever that the people in England at present are far more temperate than they were. The returns as to the consumption of all forms of alcohol show the marked reduction in the consumption, and this probably is more marked in the lower middle and lower classes than among the higher classes. One would therefore have expected, if there is a direct relationship between the consumption of alcohol and mental unsoundness, that there would have been a reduction rather an increase of insanity at present. But, as I have said, this is not the fact. It is always dangerous to come rapidly to conclusions on comparatively slight statistics or general information. But I am bound to say that the very large number of total abstainers whom I see in consulting practice has made me wonder whether the complete and total change from moderate indulgence in alcohol to total abstinence had been altogether for the good, the mental good I may say, of the race. It is well, however, to remember that a certain proportion of total abstainers are the descendants of alcoholic parents who, having seen the disastrous results of excess in a parent, have determined at once to refrain altogether. Such individuals have already a weakened nervous system by inheritance, and therefore that they should become abnormally sensitive and tend to melancholy is not surprising. There are others who are total abstainers not having strength of will to be moderate. Such people are predisposed to break down mentally if unusual strain is thrown upon them. It is interesting to note that in Ireland, where certainly a considerable amount of alcohol is consumed, the medical superintendents of many of the asylums report that, next to heredity, they look upon alcoholic excess as the chief cause of insanity; a second cause is given by a large number of the superintendents—excess of tea drinking. I am hardly prepared to accept this as a cause, yet it is right that I should mention it. There is no doubt that excess of alcoholic stimulants leads to direct alteration in the nutrition of the brain and nervous system, and also that, if the induced recurring alteration occurs, there will be permanent nutritional changes which become visible in the whole nervous system. And these changes give rise to corresponding mental symptoms. Thus the peripheral neuritis which is frequent in cases of chronic alcoholism not seldom gives rise to cutaneous hallucinations; and gastro-intestinal trouble produced from the same cause may also give rise to delusions. Thus, as a result of peripheral neuritis, chiefly affecting the limbs, it is a common experience to meet with patients—and I think I might say more commonly women—who complain that they are annoyed, electrified, or interfered with as far as their skin was concerned, by some systematic persecution. In the second group one not infrequently meets with gastric alcoholics who accuse persons of tampering with their food. It will thus be seen how readily delusions and hallucinations of the senses may be the direct outcome of chronic alcoholism. Continued excess leads to premature degeneration of the brain. Thus on one hand we have symptoms allied to delirium similar to those produced by general toxic influences, while on the other we have symptoms of premature senility. And the whole group of symptoms, which have been described more recently under the name of Korsakow's syndrome, depend almost invariably on toxic influences and are most marked in alcoholic cases and in senility with mental decay; and Metchnikoff has described toxins which he believes to be associated with senility. And it is interesting to recognise that this group of symptoms is constantly met with, not only in the toxic conditions I have referred to, but also in senility. We have therefore alcohol producing a definite set of symptoms, and I say that any mental disorder which may be produced temporarily may, if the toxic influence is continued, become established as a morbid habit, associated with organic change. I have also pointed out that chronic alcoholism leads to something more than mere toxic changes, to permanent decay of the whole nervous system.

The next, and a most important, question, especially in relationship to the increase in insanity, is the fact that alcoholic parents tend to have degenerate children. The children of chronic alcoholics have most of the characteristics of the children of the highly neurotic or the degeneratingly insane; idiocy, imbecility, and moral insanity being most marked in the children of the chronic alcoholic. Dr. F. W. Mott recently published some very important observations in relationship to alcoholism and nervous disorder. Similar observations were recorded by Mr. W. Bevan Lewis. And I would sum up their results as follows. Dr. Mott considered that one-fourth of the out-patients whom he saw at Charing Cross Hospital had alcohol as an efficient or coefficient in causing the bodily disease for which he was consulted. He believed that the grocer's licence tended to drinking among women, which produced many of the polyneuritic neuroses. Dr. Mott goes so far as to say that he is of opinion that there is no proof that insanity itself would diminish to anything like the extent that is believed by many enthusiasts if alcohol were altogether abolished, and I have already said the same. Next follows the startling statement that the people who were in general hospitals and who consulted him in the out-patient room as a result of alcoholic excess, generally had visceral disease of some kind: that they had kidney disease, or liver disease, or some polyneuritis. On the other hand, at the asylum he found that those patients who were admitted suffering from the insanity of alcoholic excess rarely, if ever, had the pathological signs generally associated with alcoholic excess. So that the post-mortem examinations of the insane from alcohol rarely provided cirrhotic liver or contracted kidneys. Various interpretations may be given to this. One is that some people are predisposed to be affected by alcohol along their digestive tracts, whereas others are more affected along the nerve lines. Others have thought that when one system was affected, whatever the cause might be, the other would be free, and that, in fact, the old belief was true, that if a man had a bodily disease he would not have a mental one, or if he had a mental one he would not have a bodily one. The interpretation which I believe Dr. Mott prefers is this: that the people who become insane as a result of alcohol require quite a small amount of alcohol to upset their balance in comparison with others: that, in fact, they may be compared to those persons who, having had some severe head injury, ever afterwards are predisposed to be easily affected by alcohol. The fact, however, is an important one, and although one has not time to consider the question of alcoholism as written about by Dr. A. Reid, yet one has to recognise that there is such a thing as the survival of some alcoholics.

Having referred to the effect of alcohol in the production of insanity it is necessary to refer to the effects of alcohol when added to other causal conditions. I have very little evidence indeed to support the contention that general paralysis of the insane depends to any extent upon alcoholic excess alone. My own experience leads me to believe that from 70 to 80 per cent. of the cases of general paralysis which I see have suffered from syphilis. But in nearly all

[1] Lectures I. and II. were published in THE LANCET of March 30th (p. 856) and April 6th (p. 933) respectively.

these cases I should say that the patients had led exciting, trying lives, that they were people who had indulged freely in alcohol and, as a rule, were large meat eaters. So that alcohol, when added to syphilis and to other abnormal or exciting conditions, may be considered as one of the causes of general paralysis of the insane. I add the notes now from the Commissioners in Lunacy in Ireland in relationship to alcohol as a cause of insanity.

ALCOHOLIC EXCESS.

General.—The proportion attributed to alcohol underwent some fluctuations during the decade but in 1903 it was only 0·8 per cent. higher than in 1894.

Perhaps as regards its effects on the future prosperity and health of the population the most important of these causes is intemperance in the use of alcohol.

As already stated, these statistics show that alcohol was found to have been the principal cause of the outbreak of mental disease in 15 per cent. of the cases admitted to asylums during the decade under review. This does not differ materially from the proportion in earlier years.

Page 9.—Alcohol is, no doubt, a frequent cause of mental breakdown. It is difficult to differentiate as to whether it is more frequently a cause or that excessive indulgence is a result of mental weakness or instability. (Lawless.)

Page 4.—Alcohol is an increasing factor in the causation of insanity, both by its acute and chronic toxic effect. (Mills.)

Page 13.—Alcohol is often suggested as being a fruitful cause, but my experience would not justify such a conclusion with regard to it. Undoubtedly the drink sold at fairs and markets is of the worst kind and must have an injurious effect on those who indulge in it; still, it may be fairly claimed for the female population of the district, and especially those residing in the country villages, that only very rarely indeed do they ever taste intoxicants. So rarely that I would be inclined to eliminate this as a cause of the insanity among them. (Hatchell.)

Page 28.—In close on 9 per cent. of the cases admitted there was the strongest possible evidence that alcohol was the main cause of the evil. (Nolan.)

Page 39.—I am of opinion that the next greatest cause of insanity is drink, and by this I mean not only persons become insane by drinking to excess but also that many of the children of confirmed drunkards who are saturated with alcohol become weak-minded or insane. (West.)

Page 45.—Ether drinking still exists in this district but to a much less degree of late. (Hetherington.)

Page 54.—The most frequent causes will be seen to be hereditary predisposition and alcoholic excesses. (Oakshott.)

Many years since, when the first of recent epidemics of influenza appeared, certain medical journals pointed out what seemed to be the immunity from this disease of the insane in asylums; but it was soon made manifest that the attendants and nurses who went into the outer world contracted the disease, and when once it was started in an asylum it spread as rapidly as it did elsewhere. I pointed out, on the other hand, that it was a very powerful starting point for neuroses, and it is now pretty generally accepted that it predisposes to such neuroses and may be either a predisposing or exciting cause. I believe that it has been a real and efficient cause for inducing any increase which now exists, and I believe from my personal experience that it is and has been more powerful than all the other causes put together. I fear that I shall not have time to do more than point out the effect which influenza has had generally on the production of nervous disorders of various kinds. In the first place it is a constant cause of most obstinate insomnia; and as food and digestion are to the body, so is sleep to the whole nervous system. It causes painful neuralgias and often disturbs digestion and nutrition.

But from these general statements I pass to the more concrete and definite ones. Influenza, like other fevers, may set up any form of psychopathy. Morbid mental symptoms may come on at any period of the influenza; it may start any form of insanity. Thus, the febrile stage may be followed by acute delirious mania of the worst possible type or it may give rise to sleeplessness with melancholia, either of an active or passive kind. It may lead directly to dementia either of a permanent or transient type. There is, however, no specific form of insanity which can be called influenzal. I believe influenza produces effects on the nervous system comparable with those depending on strong neurotic heredity or alcoholic or senile degeneration. Therefore, after several attacks of influenza it is not uncommon for fully organised delusional insanity, with grandiose ideas or ideas of persecution, to appear. In patients with strong neurotic heredity the first attack of insanity often follows influenza. In patients who have had previous attacks of insanity influenza may start a fresh attack, which may or may not follow the course of previous attacks. The mental disorder need have no relation to the severity of the attack of influenza. Though not a cause of general paralysis of the insane, yet it may be the exciting cause, so that a person who has other causes of nervous degeneration, such as syphilis and alcohol, after an attack of influenza may rapidly develop all the symptoms of general paralysis of the insane. In a few instances I have seen an attack of influenza modify an attack of insanity, and even relieve it. It is noteworthy that suicides increase markedly after an epidemic of influenza.

While fully recognising that the time at my disposal will only allow me the opportunity of bringing before you the most potent causes of mental instability and those which I think may, to a certain extent, be looked upon as causes of any increase of insanity which is found to exist, I feel that I must consider the question of sexual morality. I do not believe the present time is much better, or much worse, than the past, but there are certain considerations which I believe to be important and to which I now refer. Marriages are, in England at all events, less frequent than they were and with men certainly it is common for the marriages to take place at a later age, so that many more men remain celibate up to 40 years than formerly. This, of course, cannot be taken as a single and isolated fact. It is associated with the greater strain and tension required to make a position in life, and it is also associated with the growth of ideas of luxury which are present now both with men and women. But a still more serious fact is that after these marriages there are fewer children and also that mothers much less frequently suckle their offspring than they did. There, again, they look upon the facts of pregnancy and lactation as interfering with their busy social life, therefore they avoid these contingencies as much as possible. I believe sexual continence is possible and admirable, but it is constantly nowadays replaced by onanism, and though I do not attribute any serious increase of insanity to this head, yet the dread of its results, which are so commonly enforced upon the public by quacks, has a very serious influence in producing a number of youthful hypochondriacs and a considerable number of suicides. Very few days pass but that I am consulted about the effects of onanism in the production of insanity. I do not believe that it produces more insanity than it did formerly, except that there are more celibates who indulge in the habit to a longer period and greater extent than if they married early. I am also frequently consulted about women whose whole mental character has become changed as a result of restriction of child-bearing and nursing. On some, probably the majority of civilised women in England and France nowadays, the feeling that in thus acting they are opposing Nature's laws does not weigh very heavily. But still, there are many women who feel degraded, and even sinful, in thus acting; and I know that many leaders among obstetric physicians recognise the neurotic woman who is produced by conjugal frauds. Though I should not say that this class adds very materially to the sum of the increase of insanity, yet I must speak very definitely as to my belief that it contributes a certain amount.

And now to proceed to the definite conclusion of the whole matter. I have already said that, in my opinion, there is an increase of insanity, that this has been steady in all classes of society, and that the reports of the Commissioners of England, Scotland, and Ireland all support this statement. So far as the lower orders are concerned the statistics are clear, but as regards the upper classes in the different countries there seems to be a decrease. To this I shall refer later. There has also been a slight temporary decrease in Scotland and England, but this really does not, I think, interfere with the pretty steady tide of increase. In England there is this year a decrease among registered or certified patients of unsound mind. But, as I have said, this is of very little value, I think. For, especially in reference to the richer classes, whatever may be said as to the feeling among the poor in relationship to asylums and certification, I believe there never was a time when the word "asylum" and the term "lunatic" were more dreaded among the well-to-do than at present. Among the causes for this increased dread doubtless is the growth by education of the feeling of the danger of inheriting mental disorder. If I have been able in any way to show that this dread is too dominant good may result. The feeling undoubtedly exists that insanity is one of the most transmissible of all diseases, and this has weighed, and still weighs, heavily on the lay mind. They will ignore other forms of disorder, even though they may be somewhat serious, but they will not admit the existence of insanity in the family unless it is absolutely forced upon them. Anything that can be treated in a home of rest by Weir-Mitchell treatment, or by change of residence and travel, appears as

nothing to their minds, but as soon as a patient has been certified they believe an indelible blot rests on the family, a blot which will have a serious influence upon the future, say, of marriageable daughters. When I tell you that there are several thousand medical men in England who are willing to receive so-called mild mental cases into their homes it surely shows how widespread this home-treatment of nervous and mental diseases is. Therefore, when the Commissioners report a decrease in the certified insane in England, it of course has to be discounted very seriously by the fact that the dread of asylums and the fear of certification act so strongly that many patients who had better be certified are sent into private care. The various bodies of commissioners have felt it their duty to consider especially the question of this increase of insanity, and so far as possible to reassure the public that they, at all events, have no great fear of any serious increase.

And now I must proceed to details; and although I cannot expect to make the dry bones of statistics live, yet I will make such use of them as is necessary. In January, 1906, there were 121,976 certified patients in England, this being an increase of 2150 on the year 1905. This rate of increase is less than that of the average increase for the previous five years, which was an average yearly increase of 2807, the average increase for the ten previous years being 2554. The chief decrease was in the numbers of private patients in licensed houses. It is important, as I shall have to repeat later when considering the apparent increase of the poor in asylums, to recognise that many more patients are now sent to asylums who formerly were retained in workhouses. Thus, nearly 50 years ago only 56·2 per cent. of the pauper lunatics were in asylums. This is a very important fact to remember, for recently in England, Scotland, and Ireland pauper persons of unsound mind of all degrees have been swept into the class of certified lunatics, and this class in future will not be so efficient in adding to the numbers of the certified insane. The greatest increase is noticed in England in the metropolitan area and in the home counties. The lodestone of the capital attracts the weak even more than it does the strong, the failing in mind and morals become aggregated in the larger centres in increasing numbers. If we compare the returns of the certified insane in 1859 with those of 1906 the numbers are startling if not appalling. In the former year in England and Wales there were 36,762. Now there are 121,976, that is an increase of 231 per cent., while the population increased during that period only 75·4 per cent. The ratio of certified patients to the general population in 1906 is 1 to 283, that is, 35·31 to every 10,000 inhabitants, whereas in 1859 it was only 18·64 per 10,000. In passing, I may refer to the recovery rate, which I regret to say does not in any way encourage one to think that the present humane methods of treatment have greatly increased the numbers cured. In an article "Statistics of Insanity," by Sir Charles Hood from 1846 to 1855, he refers to the percentage of cures being quite as high as at the present time. He gives the aggregate of the 100 years ending Dec. 31st, 1855: admitted into Bethlem Hospital, 19,373 patients; cured, 8341, a percentage of 43·5. From 1846 to 1855, 2726 were admitted, and during that period the high percentage of recoveries was 54·19. It is well, of course, to remember that the patients admitted into Bethlem Hospital were and are of a special type, no chronic, or incurable, or epileptic cases being received. But even taking that into consideration the rate of cure of the last return is no higher than it was nearly 100 years ago and no higher certainly than it was 50 years ago. This all points, I think, to the fact that only a certain number of insane are curable under any conditions whatever, and that the idea of any universal system of treatment greatly increasing the recovery rate is altogether misleading. The Scotch Commissioners this year give an account of the increase since 1858, in which year there were 5824 certified patients, whereas on Jan. 1st, 1906, there were 17,450, showing an increase in nearly half a century of 11,606. This increase is confined to the general public asylums, there being a decrease of 624 in the residents in private asylums. A very large increase of patients in private dwellings is noted, and this is a point of special interest in Scotland, where the system of boarding-out is carried on largely and successfully and certainly more than is possible in England. In Scotland during the last three years there has been a decrease of insane persons in proportion to the population, and this is the first time such a thing has occurred since 1858. During the whole period the lunatics have increased 200 per cent., while the population has increased only 56 per cent. Among the causes of total increase of admissions are a large number of senile cases from infirmaries, but this must not be taken to connote a general deterioration of the race. In Scotland, as elsewhere, the struggle for existence renders it more difficult for the poor and healthy to maintain the feeble or insane in their own houses, the residence of such people interfering with the wage-earning capacity of the family, so that it is altogether easier for them to contribute something towards the maintenance of a patient in an asylum than to keep him at home. And with the steady development of treatment of weak-minded and feeble people in cottage homes the demand has created a supply that proves, at all events in the north, to be quite satisfactory. It is noteworthy that—whether there is an increase in other forms of mental disorder or not being doubtful—there is in Scotland as well as in England a marked increase in the number of general paralytics. Not a quarter of a century ago the numbers were quite small; now they are large and increasing. And what is more astonishing is that the increase is more marked and more recognised in Edinburgh than in Glasgow, though, as a rule, one finds more general paralytics in big manufacturing cities than in smaller residential capitals. Another anomalous point among the general paralytics of Scotland is that the increase has been more marked among women than among men. The increase of general paralytics, then, is one of the distinct causes of increase of insane individuals. The Irish Commissioners this year have made a special report on the alleged increase of insanity. I have already had occasion to quote from this and it will be necessary now to refer to it more in detail. The contribution has the advantage of giving the individual opinions of the superintendents of the various asylums and also the conclusions arrived at by the Commissioners themselves. I may briefly, before referring to the detailed reports of the Commissioners, give their conclusions, which were: That the apparent increase is due chiefly to accumulation and that the increase is more apparent than real; that patients live longer, being retained longer in many cases (in many cases all their lives) in asylums. In reference to this I might quote Dr. William Farr, who thus expressed the same idea: "There may be ten times as many lunatics in civilised as in barbarous countries, and not because the tendency of insanity is greater but because the lunatics live ten times as long as they did." The increase depends, too, on the withdrawal of a large number of quiet, harmless, senile, or weak-minded persons from their homes. This is shown by the fact that the general census returns showed the number of such persons to be very greatly reduced. Doubtless the drawing of the healthy and able-bodied to the cities and to the colonies has also tended to the removal of the more feeble to the asylums, as there were fewer people personally able to look after them. The unusual increase pointed to some special causes and the Commissioners have given their report under five headings. To some of these I have already referred: heredity, including consanguineous marriages, malnutrition and bad diet, the inordinate use of stimulants, and mental strain due to agricultural depression. These returns provide very interesting matter for further consideration. The effect of emigration has been that the healthier and younger go abroad and the less fit and the older remain behind; and, what is certain, quite a considerable number of those who break down in America are repatriated as insane, so that the healthy remain there, whereas many of the feeble are returned to swell the list of lunatics in Ireland. This is made clear by the fact that in the 30 years between 1871 and 1901 there was no increase in the proportion of insane in reference to population between the ages of 20 and 55. There was, however, a very large increase in the ratio of insane to population in the old-age period. In Ireland the amount of insanity in proportion to the population is greater in the most remote rural districts, whilst in the busiest towns the ratio of the insane to the sane population is lowest. This is due, of course, to the exodus of the healthy from the country places. Even the first admissions are misleading, as these represent failures after residence at home; so that a very large proportion of people who come under the head of "first admissions" after all have been insane for long periods before they are sent to an asylum. It has often been said that the only way we can judge of the relative increase of the insane in a country is by reckoning the number of first admissions; and the Commissioners in Lunacy have, of recent years, taken special pains to show the proportion of

first admissions to other admissions. It is an interesting point, and one not easy to explain, that the Irish in America produce a much larger proportion of insane patients than any of the other emigrants. I remember being very much struck myself when in America with the very large numbers of physical, social, and mental failures represented in the asylums and infirmaries near New York that the Irish provided. This has, of course, been explained by the instability of the Celtic temperament, but that hardly seems sufficient. Doubtless there are other contributing causes; among others, the home-loving instinct of the Irish is very characteristic and also their tendency to wander. And this tendency to wander is pretty frequently recognised as an early symptom of mental disorder. It might be interesting to note that similar conditions exist in America.

Before proceeding to my general summary and conclusions I feel that I cannot do better than quote from Dr. Mott:—

> A pathology which only considers the morbid macroscopic and microscopic anatomy is useless; there must be a correlation of the clinical and psychological symptoms with the morbid physical, chemical, and structural changes of the organs and tissues of the body, particularly of the brain. No one who has had any practical experience of insanity can come to any other conclusion than that the majority of people become insane because there is an inborn tendency in their nature. In fact, the pathology of the causation of insanity of an individual resolves itself into a study of his personality—what he was born with and what happened to him after birth. Numbers of factors may conspire or combine after birth to bring out this innate tendency to mental derangement. It may be asked, Can a stock which is sound mentally become unsound by its members being subjected to an unfavourable environment? Many people deny the possibility of mutation in the germ plasm, but as the nervous system is the latest and most complex and differentiated tissue in structure and function mutations and variations may occur in consequence of favourable or unfavourable environment. The commingling of the germ cells of two stocks of suitable or unsuitable temperaments may by a happy or unfortunate chance produce sporadic genius or sporadic insanity.

And now to proceed to my general conclusions. I do not find there is any real ground for alarm in the increased number among the insane. There are many reasons for the apparent increase, as I have already pointed out. I do find there is an increase of insane persons suffering from general paralysis of the insane and from the various forms of senile dementia; but I do not think there is any evidence pointing to alcoholic excess as at present causing any real increase. I think influenza, on the other hand, has had a very serious effect in predisposing to nervous instability, which predisposes to neurosis generally, and to insanity undoubtedly. And thus, though general paralysis and influenzal infection may be causes of insanity, I cannot believe that any real benefit will follow any definite medical treatment of insanity as one disease. That the time is approaching when general paralysis may be found to be a curable disease is possible, and that we may learn a great deal from the clinical study of the forms of insanity depending upon micro-organisms I also admit, and that it will be a great advantage to the world at large, and to the medical profession in particular, when there is greater convenience for the study and investigation of mental disorders. It is, however, extremely difficult to understand how the huge mass of chronic insanity is ever to be dealt with. England is becoming more and more crowded and therefore is less able to have detached colonies where the weak-minded of all classes and both sexes can be segregated. That very great good may result from the early treatment of the insane is shown by the experience of Dr. J. Carswell at the Glasgow Hospital for the Insane. They have two wards specially adapted for the reception of acute cases of mental disorder, and it is remarkable that a very large proportion of these are cured or recover and are allowed to go home without having to be sent to an asylum. Altogether, of 1027 admissions into the hospital 583 had to be sent to asylums, 415 were discharged well, and 30 remained under treatment. Of those certified 164 had had previous attacks and only 364 represent acute fresh cases. The number represents the annual production of pauper lunacy. The proportion per 10,000 of population for the year was 5·87—that is, less than 6 per 10,000 of the population became pauper lunatics in 1905–06. When viewed in the mass the statistics of pauper lunacy look alarming, but such a proportion occurring in a large industrial population such as that of Glasgow is not a real cause of fear. It is noteworthy, too, that there is no increase in persons of the young and the middle ages, the increase being greater after the age of 60. There has been no increase of late years in Scotland and Dr. Carswell is hopeful that the high-water mark has been reached.

So far, then, I have brought my subject to a close: that there is an increase among the insane, that it is not alarming, either in number or in quality, that many other causes besides inheritance contribute to these mental catastrophes. And one feels that there is still scope for treatment of many cases of mental disorder perhaps on different lines from the past. But with all hope one must mingle caution.

The Hunterian Lectures

ON

THE PATHOLOGY OF MELANOTIC GROWTHS IN RELATION TO THEIR OPERATIVE TREATMENT.

Delivered before the Royal College of Surgeons of England on Feb. 25th and 27th, 1907,

BY W. SAMPSON HANDLEY, M.S. LOND., F.R.C.S. ENG.,

HUNTERIAN PROFESSOR; ASSISTANT SURGEON TO THE MIDDLESEX HOSPITAL.

LECTURE II.[1]

Delivered on Feb. 27th.

MR. PRESIDENT AND GENTLEMEN,—My last lecture was mainly occupied with a study of the course of dissemination in a case of melanotic sarcoma which, pending wider investigations, must be taken as typical. I endeavoured to show that centrifugal permeation of the lymph-vessels round any focus of melanotic sarcoma, whether primary or secondary, is the primary factor in dissemination, and that embolic spread by way of the blood stream is a later event, dependent on the infiltration and invasion of the veins and arteries from comitant permeated lymphatics. In the present lecture I propose to consider briefly and in somewhat disconnected fashion some miscellaneous points connected with the pathology of melanotic growths, reserving the most important question, that of operative treatment, for the latter half of my lecture.

Some writers have used the term melanoma as equivalent to "melanotic sarcoma." Although this usage has the authority of Mr. F. S. Eve,[2] it is, I think, better to use the word "melanoma" for all tumours containing melanin granules, whether simple or malignant. Just as a distinction is drawn between a simple and a malignant adenoma, so the melanomata may be divided into simple and malignant melanomata. It is probable that the melanomata only occur in situations where melanin-containing cells are normally found. These tumours occur most commonly upon the skin, especially upon its deeply pigmented areas, and within the eye. More rarely they may arise upon those mucous membranes which march with the skin at the orifices of the mouth, the anus, and the vagina. As rare curiosities they have been met with in ovarian dermoids and in one unique case a melanotic tumour arose in the spinal cord.[3] They occur in horses, most commonly in grey horses, in oxen, and in dogs, as well as in the human race. It is relevant to note that Mr. H. W. Acton has observed pigmented cells in the skin of ovarian dermoids and that pigmentation of the spinal pia mater is commonly met with. In view of these facts it is necessary to consider what light normal histology can throw upon the origin of the melanomata.

THE CHROMATOPHORES.

Connective tissue cells containing melanin granules, stellate in shape, with many long branching processes, or fusiform with long pennant-like terminations, occur in the upper layers of the dermis, more especially in areas of normally pigmented skin, such, for instance, as the skin of the scrotum and of the mammary areola. These cells resemble in every respect the pigment cells of the choroid. They are found more abundantly in the skin of the negro than in that of the white man, and the darker the tint of the skin the more numerous are the chromatophores of the underlying dermis. Nevertheless, the bulk of the pigment in the negro's skin does not lie in the dermis but is collected in the deepest or protoplasmic layer of the

[1] Lecture I. was published in THE LANCET of April 6th, 1907, p. 927.
[2] Eve: A Lecture on Melanoma, The Practitioner, February, 1903.
[3] Hirschberg: Chromatophoroma Medullæ Spinalis, Virchow's Archiv, Band clxxxvi., p. 229.

epidermis. It would thus appear at first sight that epithelial cells, as well as connective tissue cells, possess the power of elaborating melanin, and presumably also of originating melanotic tumours. Repeated observations have, however, convinced me that the pigment granules of the stratum mucosum of the negro's skin form a branching network which is mainly intercellular in position. Occasionally the main lines of this network can be seen passing down into the underlying dermis. These observations support the view which holds that the pigment of the negro's epidermis is not produced within the epithelial cells but is contained within long branching processes of the underlying connective cells or chromatophores, which thrust themselves between the adjoining epithelial cells. You will remember that the pigment cells of the reptilia possess great amœboid power, sometimes thrusting out long pigmented processes and again withdrawing them if the light becomes intense. In the negro's skin a rete of similar pigmented processes derived from the dermis appears to enwrap the deeper epithelial cells of the epidermis, much as the dendron of a nerve embraces a nerve cell. I notice that Mr. Willmott H. Evans in his recent Erasmus Wilson lecture on Leucodermia [4] has expressed views very similar to those just stated. If the melanin granules of the negro's skin originated within the epithelial cells it would be natural to expect that the older horny cells would still contain the inert and stable melanin particles originally formed in them. This is not the case; the superficial layers of the negro's epithelium are almost entirely free from melanin granules. It would appear that the growing epithelial cells as they are pushed towards the surface extricate themselves from the entangling network of processes and show themselves in their true character as unpigmented epithelial cells of the usual type.

Mr. Willmott Evans, in the valuable lecture to which I have referred, quotes Karg's experiments on skin-grafting from a white man to a negro and *vice versâ*. Negroid skin soon loses its pigment when transferred to a white man, while the skin of a white man becomes dark when implanted upon a negro. Since the epithelium is the vital element of a skin graft it seems a fair inference that the dermis, and not the epithelium, is the vital laboratory for pigment and that the epithelial layer is only passively impregnated by the pigment produced deeper down in the chromatophores of the dermis.

The Relation of Chromatophores to Hair.

Attention does not seem to have been called to the special abundance of the chromatophores in the vascular mesoblastic papilla upon which the bulb of a human hair rests, and in the growing mass of cells which forms the hair bulb itself. The fact is not without significance in view of the abnormal formation of hair which is so often seen in moles. It would appear that the chromatophores play an important part in the nutrition of the hair, even if they do not enter into its structure. A study of the structure of the hair papilla appears to throw light upon the polymorphism of the cells of malignant melanomata. In some hairs, presumably young ones, the hair papilla consists entirely of richly protoplasmic round or fusiform cells, quite devoid of pigment, and hardly distinguishable from the cells of the hair bulb. In others, again, unpigmented fusiform cells are mixed with fusiform pigmented cells—typical chromatophores (Fig. 10). The long processes of these chromatophores, and even the cells themselves, often pass in between the overlying cells of the hair bulb, so that an appearance is produced like that of the negro's epidermis. Sometimes coarse pigment masses are seen between the chromatophores, and these are presumably cells which have become so pigmented that their cellular identity is lost. Other hair papillæ are fibrous in structure, with scanty nuclei and little or no formation of pigment. There can, I think, be no doubt that the various forms of cell found in the hair papilla, varying from a richly protoplasmic rounded cell to a typical branched chromatophore, are stages in the development of one particular form of cell, and that the pigment-masses or fibrous bundles are stages in the degeneration of the same variety of cell. Acton has observed collections of chromatophores at the base of the hooklets which stud the shark's skin. Here, again, the chromatophores are seen playing a part in the nutrition of the epidermis. A consideration of normal minute anatomy thus points to the view that the malignant melanomata are mesoblastic and not epithelial tumours, and supports Ribbert's view that the malignant melanomata are "chromatophoromata," and that the varying forms of cells found in them all represent stages in the development or decay of the normal chromatophore.

Passing now from the normal melanin-forming cells of the body we must briefly consider the simple or non-malignant melanomata.

Pigmented Warts and Moles.

In English surgical literature, as Dr. Wilfrid Fox has pointed out, the name nævus is often restricted to an area of skin which exhibits an excessive formation of blood or lymphatic vessels, while by the Germans the name nævus is applied to any localised patch of skin which shows defective development and a fibro-cellular structure, quite apart from the question of its degree of vascularity. Thus, all the abnormally pigmented patches of congenital origin which are so frequently present upon the skin are included by the Germans under the heading of "pigmented nævi." They may appear as simple black or brown stains—beauty spots—or as raised patches of varying size and shape, often covered with hair, or as pigmented warty areas with evident papillary prominences—the "wart-fields" described by Mr. J. Bland-Sutton. Dr. Max Tièche [5] has recently investigated the little bluish spots, "blue nævi," coloured like gunpowder tattooing, which are frequently seen.

All these varied forms of simple melanoma are practically identical in structure. They show pigmentation either of the stratum mucosum of the epidermis, particularly in the inter-papillary epithelial cell columns, or of the sub-epidermal layer of the corium, or pigmentation of both layers. Apart from their pigmentation the simple melanomata are characterised by the presence of lines and groups of unpigmented richly protoplasmic cells, "nævus cells," fusiform or rounded in section, lying in the superficial third of the thickness of the dermis, but deep to its pigmented layer. (Fig. 11.) Save that the nævus cell is smaller, the appearance presented by these simple melanomata is frequently indistinguishable over considerable areas of the section from the microscopic appearance of an alveolar melanotic sarcoma. (Fig. 12.)

The warty overgrowth seen in certain moles would appear to be a secondary characteristic, probably dependent upon a local imperfection of the lymphatic circulation. Warty overgrowth as a consequence of lymphatic obstruction is familiar in elephantiasis.

The Nature of Nævus Cells.

Malignant melanomata of the skin appear, as a rule, to be derived from the nævus cells of pigmented warts and moles. If these cells are shown to be of mesoblastic origin, then the malignant melanomata are sarcomata. If, on the other hand, they are epiblastic in origin, then the malignant melanomata are carcinomata.

According to Borst and Bauer the lines and groups of nævus cells are derived from the inward proliferation of the endothelium of the lymphatic vessels and spaces. Borst points out that pigmented cells occur only in the superficial layer of the corium, between the nævus cells and the epidermis, and further that in this layer evidence of cell proliferation is absent. Ribbert has observed transitional forms between the unpigmented spindle-shaped nævus cell and the typical pigmented star-shaped chromatophore. He holds, upon arguments which seem to me convincing, if not conclusive, that the nævus cells are young chromatophores which have not yet acquired their pigment. Since the chromatophores are branched connective-tissue cells lying within, or lining the walls of, lymphatic spaces there is no contradiction between Ribbert's view and that of Borst. In sharp contradistinctionto these views is the opinion of Unna and his school in Germany and of Mr. Eve, Dr. Wilfrid Fox,[6] and others in this country. Unna believes that the lines and groups of nævus cells are derived from down-growing processes of the cutaneous epithelium. In my opinion, although I approached the subject expecting to be convinced of the carcinomatous nature of malignant melanomata, the views of Unna are certainly erroneous. Frequently, in pigmented moles, the epidermal layer is practically normal and is everywhere separated from the underlying nævus cells by a thin perfectly continuous layer of fibrous tissue. Moreover, though I have seen nævus cells

[4] THE LANCET, Feb. 16th, 1907, p. 407.

[5] M. Tièche: Ueber Benigne Melanome, Virchow's Archiv, Band clxxxvi., p. 212. I am indebted to Dr. Tièche for kindly sending me some of his specimens.

[6] Wilfrid Fox: British Journal of Dermatology, January, 1906.

coming into very close relation with the overlying epithelium, and indeed apparently continuous with its down-growing processes, it is always possible to say within narrow limits where the epithelium leaves off and the nævus cells begin. The tendency of the normal chromatophores to thrust their processes between the deeper layers of the epithelium sufficiently accounts for the absence of a sharp line of demarcation. The richly protoplasmic nature of the nævus cells may indeed give them an appearance like that of an epithelium, but such an appearance is valueless as a proof of their epithelial nature. Connective-tissue cells may closely simulate an epithelium. For instance, the layer of odontoblasts in a developing tooth, although admittedly of mesoblastic origin, may present all the appearance of a layer of epithelium. In shape, size, and other respects the nævus cells in many moles are entirely unlike cutaneous epithelium. It is only exceptionally that the appearance of the two kinds of cell is so similar as to lead to confusion. Lastly, the intercellular prickles of cutaneous epithelium have never been demonstrated between nævus cells. Blood-vessels may be seen running within the groups of nævus cells.

The intimate relations which I have observed between the chromatophores of the hair papilla and the bulb of a normal hair may serve to explain many of the peculiarities of pigmented moles. A mole may be regarded as a district in which the down-growing processes of epithelium from which hairs are derived have failed to come into proper apposition with the upgrowing dermal hair papilla. The mesoblastic cells (chromatophores) of the abortive hair papillæ proliferate abnormally and form nævus cells, while the down-growing epithelial processes remain to convey the erroneous suggestion that *they* are the source of the groups of nævus cells with which they are sometimes apparently welded. Thus a pigmented mole might, perhaps, not inappropriately be described as a trichoma, a hair tumour, originating not from the down-growing epithelial process which forms the hair but from the up-growing mesoblastic hair papilla. Such a view provides a plausible explanation for the down-growing epithelial cell columns so often seen in moles and for their intimate connexion with the nævus cells derived from the abortive hair papillæ.

THE ORIGIN OF MALIGNANT MELANOMATA FROM SIMPLE MELANOMATA.

In a large majority of cases malignant melanoma arises in connexion with a pre-existing simple melanoma. Mr. Eve, to whose well-known work on the subject I am much indebted, states that 26 out of 33 malignant melanomata of the skin occurring at the London Hospital arose in pigmented moles. The onset of malignancy is usually indicated by the enlargement of the mole, but, as Mr. Eve points out, the primary growth seldom exceeds a walnut in size. Occasionally, as in melanoma of the vulva, or in Mr. Jocelyn Swan's case of melanoma of the face, which his courtesy enables me to show you, the primary growth may attain a large size. Frequently there is hæmorrhage and sometimes a discharge which may be offensive. Occasionally no apparent change occurs in the mole and its malignancy is signalised only by the appearance of metastases (Eve). Sometimes no primary growth can be found. Dr. G. Newton Pitt informs me of a case upon which a necropsy was made by Dr. Hilton Fagge. All the organs had been removed and no primary growth could be detected anywhere. Dr. Fagge examined the lowest inch of the rectum, which had not been removed, and found the primary melanotic growth there.

THE ORIGIN OF MALIGNANT MELANOMATA APART FROM PRE-EXISTING SIMPLE MELANOMATA.

Mr. Eve has drawn attention to the malignant melanomata which arise in the scar of a punctured wound. He records two cases:—

A lady, aged 55, had a melanotic growth over the head of the fourth metatarsal bone from which she ultimately died. 20 years previously she wounded her foot upon the seashore. A slight thickening of the skin remained, and three months before she came under observation the thickened part began to enlarge until a definite tumour formed.

A lady, aged 39, stated that ten years before she came under observation she ran a splinter of wood under the skin of the right thumb. Blood accumulated under the skin and subsequently a black spot remained. This pigmented spot gradually spread and ultimately it ulcerated and gave rise to secondary growths in the epitrochlear and axillary glands.

Mr. Bland-Sutton has drawn attention to the implantation cysts, lined by epithelium, which originate from particles of integument carried down into the subcutaneous tissues by an injury. I would suggest that the melanomata which originate in the scar of a puncture are due to the traumatic implantation into the subcutaneous tissues of a group of dermal connective-tissue cells,—of actual or potential chromatophores.

Another interesting group of skin melanomata are those which Mr. Jonathan Hutchinson has described as melanotic whitlows. The term is, perhaps, unfortunate as suggesting that the tendon sheaths are implicated, which is not the case. The disease appears to begin as an ordinary chronic septic inflammation of the paronychial skin or of the pulp of the finger. Its real nature is often only indicated by a narrow black line in the skin forming a border to the swelling. In other cases (Lediard, Barnard) no period of apparent inflammation precedes the definitely recognisable tumour. Mr. H. L. Barnard, who has studied these tumours, tells me that they commence in the paronychial skin and not in the matrix of the nail, which is only secondarily affected. They occur most frequently upon the outer side of the great toe and upon the index finger. In the latter situation they have only been recorded in female patients. Cases have also occurred upon the thumb and upon the fifth finger.

It appears to me that these growths, too, are implantation melanomata. The cases which appear at first inflammatory may be due to the simultaneous inoculation of bacteria and of pigmented connective-tissue cells. When they occur upon the hand the site of the growth and the sex of the patients point to needle-pricks as the injury concerned. Mr. Barnard informs me that his patient was much occupied in sewing. In the recorded cases it is not stated which hand was affected; presumably the left hand would be more liable to such injuries. The historic connexion of the London Hospital with the melanomata may depend on the tailoring and sewing industries of the surrounding district, just as that of Guy's Hospital with anthrax depends on the tanning industry of Bermondsey. In the case of the great toe the sharp edge of an ingrowing toe-nail would appear to be the weapon concerned. This is indicated by the preference of melanotic growths for the outer side of the great toe. These growths, too, must be looked upon as implantation melanomata. Sir Frederick Treves has recorded a melanoma of the palate due to the pressure of a denture, and melanotic growths have repeatedly been recorded as commencing in the lower part of the rectum, a part very liable to punctured injuries by fish bones. The malignant melanomata of the skin may thus, I believe, be classified in two groups: (*a*) those originating from simple melanomata and (*b*) implantation melanomata arising from the traumatic implantation of chromatophores.

The following case, recorded by Norris, is of interest in connexion with this question of implantation:—

The patient was a woman, aged 28 years. Three years previously her brother ran a pair of scissors through a mole between her shoulders, and a dark-brown coloured stain, the size of a large nut, afterwards surrounded the mole. 12 weeks ago the mole began to increase and grew to the size of a moderate mushroom. It was oval, black, soft, elastic, and pedunculated. There was also a small tumour like a black grape near its upper surface. Mr. Norris removed the disease with abundance of the surrounding substance and predicted recurrence, but none occurred in eight years.

THE MICROSCOPIC STRUCTURE OF MALIGNANT MELANOMATA.

Borst describes three varieties of structure in primary malignant melanomata: (*a*) Those consisting of slender spindle cells, the ends of which are continued into very long branching processes. Stellate, round, and oval cells are often also present. In this variety of growth the cells are easily to be recognised as chromatophores. (*b*) Those consisting of spindle-shaped cells arranged in intercrossing

DESCRIPTIONS OF ILLUSTRATIONS ON PAGE 999.

Fig. 10.—An oblique section of a hair-bulb from the human scalp showing the numerous branched and pigmented cells (chromatophores) which are sometimes present in the hair-papilla and among the cells of the hair-bulb.

Fig. 11.—A verrucose mole seen under a low power. Note the sharp division between the epithelium and the pigmented layer of the dermis. Just beneath the pigmented layer is the broad cellular band of nævus-cells.

Fig. 12.—A group of nævus cells from simple melanoma viewed under a high magnification.

Fig. 13.—The unpigmented portion of a primary malignant melanoma of the thigh, under the care of Mr. Pearce Gould.

Fig. 14.—The pigmented portion of the same tumour. The tumour resembles a "perithelioma" in appearance, and is entirely unlike a carcinoma. The round empty spaces are blood-vessels.

Fig 15.—(From Ribbert). Chromatophores of various types from primary and secondary melanotic sarcomata. Some of the pigmented cells are stellate, others fusiform. Note the long branching processes of the cells.

FIG. 10.

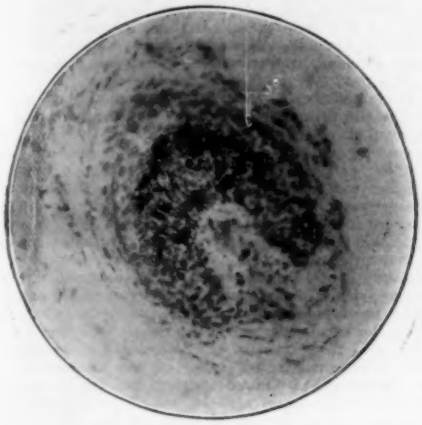


FIG. 11.

FIG. 12.

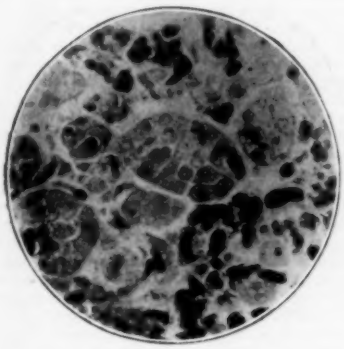


FIG. 13.

FIG. 14.

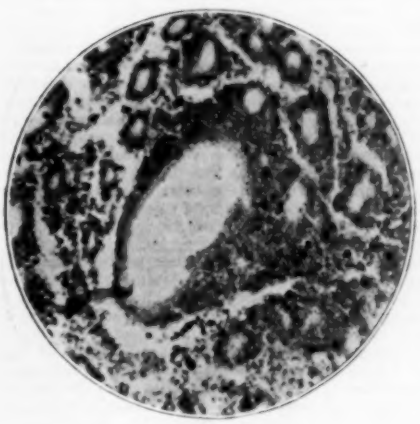
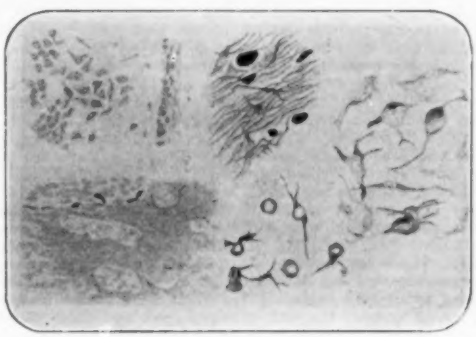


FIG. 15.



bundles. In section these growths present an alveolar appearance, the alveoli containing apparent round cells which are really spindle cells in cross section (Ribbert). (*c*) Those consisting of large cells, round, oval, or polygonal in shape, arranged in alveoli separated by strands of connective tissue. This is the variety which closely resembles a carcinoma.

Besides these varieties I am able to show you a peculiar form of malignant melanoma, apparently due to sarcomatous degeneration of the perivascular connective-tissue cells of a cavernous nævus (Fig. 13). The overlying cutaneous epithelium is normal. You will notice that in the fully developed pigmented portion of this tumour (Fig. 14) the blood-vessels constitute the only stroma which is present and that each vessel is thickly clad with many layers of tumour cells, which are more loosely scattered in the intervascular spaces. It is obvious that a tumour with these characters, resembling in structure a perithelioma, could never be classified as a carcinoma.

The distribution of pigment in malignant melanomata is very irregular. Sharply defined portions and even the whole of the primary growth may be free, or nearly free, from pigment. As regards the secondary nodules some may be coal-black, while others in the same organ are colourless. The glandular metastases generally show deep pigmentation.

MELANIN.

Much disagreement has existed as to the nature and origin of melanin. Some authors maintain that it contains iron and is derived from the pigment of the blood, others maintain that it is free from iron and deny its origin from the blood. M. B. Schmidt[7] has shown experimentally that iron-free pigments may be derived from blood pigment, and, further, that in melanotic tumours some of the melanin granules may give the micro-chemical reactions for iron, while other melanin granules in the same specimen remain unstained. He concludes that melanin is derived from the blood and that consequently in the early stages of its formation it contains iron, which, however, it has lost by the time its chemical development is complete. In fact, the term "melanin" is a histological one, not a chemical one, and is applicable to pigment granules some of which may contain iron; but in what may be regarded as its typical form melanin is iron-free. The remaining chemical characters of melanin are well known and need not detain us. It is, however, of practical importance to note that melanin is bleached by chlorine, a fact which enables it to be distinguished from the carbon particles so frequently present in lymphatic glands.

Ribbert,[8] in a paper which, to my mind, almost conclusively proves that the malignant melanomata must be classified among or near the sarcomata, has brought forward some new facts, chiefly derived from the examination of fresh teased-out preparations. According to Ribbert's observations the cells of melanotic sarcoma of the eye agree with the normal pigment cells of the choroid in all particulars, showing in fresh teased-out preparations star-shaped cells with long multiple processes, or spindle cells with their ends prolonged in similar and often very long processes. (Fig. 15.) Some of the cells are entirely filled, except in the nucleus, with pigment granules; in some the granules are universally but more sparingly distributed, others are entirely free from pigment. The granules are principally found in the peripheral layer of the protoplasm, and this applies both to the cell body and to its prolongations. Among the branched elements, round or oval, intensely pigmented cells without processes are to be seen. In the older parts of the tumour star-like pigment cells are wanting and spindle cells with long prolongations may be seen lying parallel in bundles. Frequently dichotomous branching of the processes can be made out. Evidently these are not ordinary spindle cells such as are found in spindle-celled sarcoma, although in sections, when shorn of their processes, they may present an identical appearance. But besides these peculiar spindle cells there may be found round, oval, spindle-shaped, or stellar elements devoid of processes containing dense aggregations of large pigment granules, or large pigment masses may be seen obscuring the cell structure and often apparently replacing it. Transition forms may be observed between the cells with processes and those devoid of processes. These serve to show that the two varieties of cells represent different stages of a single-cell variety, or perhaps different degrees of contraction of the cell protoplasm such as is seen in the pigment cells of reptiles.

The preceding observations apply only to tumours in an early stage of development. In later stages the branching character of the cells is lost, and they resemble those of an alveolar sarcoma, appearing fusiform or round, according as the cell is cut longitudinally or crosswise.

In the metastases of melanotic sarcoma of the choroid, as well as in the primary growth, all these forms of cells from the typical star-shaped chromatophore with long processes to the round pigment mass occur. From all these facts Ribbert concludes that the characteristic elements of melanotic sarcoma of the eye are the chromatophores, which, however, in the course of their growth may suffer many modifications or may remain undeveloped and free from pigment, resembling in this latter respect the normal chromatophores when they first appear in the developing embryo.

Similarly Ribbert regards melanotic sarcoma of the skin as a tumour arising from the chromatophores of the cutis. He believes that the nævus cells are young chromatophores, holding the same relation to the developed pigmented cell as the unpigmented cells of a melanotic sarcoma hold to the pigmented ones. One of the commonest melanotic sarcomata is characterised by the presence of pigmented cells exclusively in the inter-alveolar tissues, while the alveolar groups of cells are free from pigment. In certain warts, on the other hand, all the alveolar cells are pigmented. Evidently the non-pigmented cells have a latent capacity for developing pigment. Moreover, in teased preparations the alveolar non-pigmented nævus cells are frequently seen as angular cells with short processes. Transitional forms between the nævus cell and the stellate chromatophore can be traced, and in places typical chromatophores pass into typical nævus cells without any sharp boundary. It is to be noted that complete development of the chromatophores as regards their processes and their pigment is only seen where they lie near the epithelium. Thus Ribbert finds that in respect to varying degrees of development of the same kind of cell, the identical appearances found in pigmented warts also occur in melanotic sarcoma, save that in sarcoma the cells are larger than in simple warts. He concludes that melanotic sarcoma of the skin, like that of the choroid, is a "chromatophoroma," a view which he confirmed by detecting typical stellate chromatophores in teased specimens of melanotic sarcoma; for instance, in a metastasis from a melanotic sarcoma of the pinna, in melanotic sarcoma of the labium minus, and in a melanotic sarcoma in a dog. A melanotic sarcoma of the great toe consisted exclusively of typical branching chromatophores (Fig. 15), but this is an exceptional event. As a rule the origin of the cells of a melanotic sarcoma from chromatophores is obscured by the loss of their processes and by the excessive deposition of pigment within them.

AT WHAT STAGE OF THE DISEASE DOES BLOOD DISSEMINATION COMMENCE?

We have obtained strong microscopic evidence that the process of dissemination in malignant melanoma is primarily one of centrifugal lymphatic permeation. There is almost equally strong evidence from the results of necropsies that in the later stages of dissemination the blood-vessels are the channels, and the blood itself the vehicle and motive power of detached emboli which form secondary deposits. The crucial point to settle as determining the prospects of surgical interference in malignant melanoma is this: At what period is lymphatic dissemination supplemented by blood dissemination? When once viable fragments of the growth are launched into the blood stream the surgeon's hand is paralysed and the patient must depend entirely on the natural forces, always inadequate and frequently altogether absent, which tend to the destruction of the embolised fragments.

Fortunately it would appear that as a general rule blood invasion does not take place at an early stage. This is indicated, *primâ facie*, by the comparatively long average duration of the disease, which has been estimated at three years. If malignant cells obtain access to the blood in the early stage of the disease, the natural powers of resistance must inhibit their further development or surely the patient would succumb within a few months. In the second place, cases occur of death from intercurrent disease, in which lymphatic dissemination, sufficiently widespread to be inoperable, is seen unaccompanied by evidence of blood dissemination. And, lastly, most extensive lymphatic

[7] Virchow's Archiv, Band cxv. and Band clxiii.
[8] Ribbert: Ueber das Melanosarkom, Ziegler's Beiträge, 1897, p. 471.

distribution of the disease may take place in the glands, the subcutaneous tissues, and upon the serous membranes without any of the nodular visceral metastases which are the usual result of blood embolism. The points to which I have referred receive illustration in the following cases.

A young woman who came under the care of Mr. Heath[9] had a discoloured area of the size of a shilling on the back of the left forearm, apparently a nævus. An unsuccessful attempt to remove it by ligature had been made. Mr. Heath excised the piece of skin and also an underlying nævoid-looking growth upon the fascia of the size of an almond. About six months later two small hard lumps appeared near the scar, with an enlarged gland in the axilla. The patient still looked the picture of health. The recurrent glands were removed but the patient died from pyæmia on the tenth day. On section the excised axillary gland was found to be perfectly black. It was as large as a tennis ball. At the necropsy several large masses of bronchial glands showing true melanotic pigmentation were found. In both lungs were numerous pyæmic deposits, besides which, however, the lower lobe of the right lung contained a soft melanotic deposit, while the left lung contained a similar mass near its root.

In this case, six months or more after the removal of the growth was deemed advisable, the only evidence of blood dissemination was the mass in the lower lobe of the right lung, and even this might with greater plausibility be ascribed to permeation round the infected glands at the root of the lung—the obvious cause of the invasion of the left lung at any rate. It seems highly probable that a free removal of the deep fascia round the growth would have prevented the local recurrence. This step would, however, have been useless without a simultaneous removal of the axillary glands. If at the first operation these glands had been removed it is likely that the extension of permeation to the supra-clavicular and thence to the bronchial glands would have been anticipated and prevented and that the patient would have been permanently cured.

In the following case[10] very extensive lymphatic dissemination and invasion of the serous cavities had occurred with a minimum of evidence showing distribution of malignant emboli by the blood stream. A woman had noticed as long as she could remember a black wart situated three inches above the left wrist. At the age of 53 years the wart began to increase in size, without pain, but with occasional bleeding, and it was accordingly removed. It is interesting to note in connexion with Coley's work on sarcoma that an attack of erysipelas which supervened was without therapeutic benefit, for two weeks after the operation a small lump made its appearance in the scalp and before the patient left the hospital other smaller lumps appeared elsewhere. Increasing weakness and the appearance of new nodules were her only symptoms for about two years. At the end of this period, in November, 1868, she was admitted to the Middlesex Hospital under the care of Mr. T. W. Nunn. Over a hundred nodules were now present over the head, face, neck, trunk, and upper limbs, together with one below the left knee. Several of the larger nodules were ulcerated, bleeding freely at times, and exuding a clear yellow fluid. In this stage the nodules were painful. The patient died in January, 1869. The surface of her body was studded with innumerable nodules. "The smaller and more numerous of these are..... scattered over the trunk and neck; many are also on the arms and thighs and some few below the elbows and knees; a few also on the head and face." The glands in both axillæ were enormously enlarged, causing dropsy of the right arm. The left breast was shrunken and the right one was much enlarged and infiltrated by growth. The mesenteric, lumbar, pelvic, and anterior mediastinal glands were infiltrated, sometimes forming masses of the size of tennis balls. One such mass surrounded the vermiform appendix, and another occupied the space between the vagina and the rectum. A minute black point, of the size of a pin's head, was imbedded in the substance of the left kidney, but the viscera generally were free from disease.

The remarkable point about this case is the freedom of the viscera from invasion, except for the single minute renal deposit. It would appear almost certain that malignant cells must have obtained access to the blood stream. The inference is that in this exceptional case of malignant melanoma the resisting power of the blood was sufficient to destroy the malignant emboli, an event which in breast cancer is the rule.

In the museum of Guy's Hospital there is a specimen which bears very directly upon this point. It is a kidney, itself entirely free from disease, so far as the naked eye can show, but imbedded in a mass of melanotic growth which is replacing the perinephric fat. It appears certain that, as frequently happens in breast cancer, the perinephric growth originated from malignant infection of the lumbar glands. If this is the case, it is evident that widespread lymphatic dissemination may occur in melanotic sarcoma without obvious evidence in the kidneys of embolic blood invasion.

THE OPERATION FOR MELANOTIC SARCOMA OF THE SKIN.

When malignant melanoma arises in the digits amputation should be performed at once. The operation should not be performed as if for a non-malignant condition. The flaps should never be cut so as to include any skin within, at least, an inch of the tumour. Moreover, they should be very thin, consisting only of skin and a very thin layer of subcutaneous fat, and not including the deep fascia. The flaps should be dissected up to a much greater extent than would be necessary merely to provide a covering for the stump. Over the whole of the area thus exposed the deeper subcutaneous fat and deep fascia should be dissected up towards the base of the finger or toe until the line of disarticulation or division of the bone is reached. The glands in the groin or the axilla are then to be removed.

When a melanotic growth occurs on the hand or the foot above the digits the question of amputation will always arise, but in early cases excision of the growth, even though it be attended by greater risk of recurrence, will usually be the operation of choice. If the glands are already palpably enlarged it is probable that anything short of amputation at the wrist or ankle is useless. When the growth starts higher up on the limbs, or on the head or trunk, amputation is replaced in most cases by excision. Museum specimens show how inadequate and empirical are the operations performed on these growths, even up to the present time. It is common to see the skin divided within a quarter of an inch of the edge of the growth. Invariably, so far as I know, the area of deep fascia removed is no larger than the area of skin excised, and consequently local recurrence in the neighbourhood of the scar is a very frequent event.

The principles upon which, in my opinion, the excision of a malignant melanoma should be carried out may be directly deduced from the drawing of dissemination round a focus of melanotic growth (Lecture I., Fig. 2). You will remember that it shows permeation spreading centrifugally in the lymphatic plexus of the deep fascia and invading skin and muscle secondarily over a smaller circular area. A circular incision should be made through the skin round the tumour at what is judged by present standards to be a safe and practicable distance. The incision, situated as a rule about an inch from the edge of the tumour, should be just deep enough to expose the subcutaneous fat. (See Fig. 16.) If necessary two radial linear incisions extending from the circular incision should be made on opposite sides of the tumour so as to facilitate the elevation of the skin flaps, which forms the next step. The skin, with a thin attached layer of subcutaneous fat, is now to be separated from the deeper structures for about two inches in all directions round the skin incision. At the extreme base of the elevated skin flaps a ring incision down to the muscles surrounds and isolates the area of deep fascia and overlying deeper subcutaneous fat to be removed. This fascial area is next to be dissected up centripetally from the muscles beneath up to a line which corresponds with that of the circular skin incision. Finally, the whole mass with the growth at its centre is removed by scooping out with a knife a circular area of the muscle immediately subjacent to the growth. The edges of the wound are to be brought together as convenience dictates.

REMOVAL OF THE LYMPHATIC GLANDS.

Writing in 1902 Eve said:[11] "The removal of the nearest chain of lymphatic glands, whether palpably enlarged or not, should never be omitted; for it may be taken as a matter of certainty that in a great majority of cases they are infected." In the same paper Eve enforces this lesson by recording a case of melanoma of the palm in which, although the axillary glands were not palpably enlarged, they were

[9] Heath, Transactions of the Pathological Society, 1868, p. 366.
[10] Arnott, Transactions of the Pathological Society, 1869, p. 322.
[11] Eve: A Lecture on Melanoma, The Practitioner, February, 1903.

infected even to the naked eye. Yet Acton,[12] writing in 1905, found in nearly every case the records of which were available that the primary growth was removed and the lymphatic glands were left!

Admitting the imperative need for removal of the lymphatic glands as a part of the first operation, it must be remarked that in cases which show palpable enlargement of these glands simple excision of the glands is likely to be quite useless. I have shown that permeation of the lymphatic plexus of the deep fascia soon takes place around the infected glands, just as it occurs around the primary tumour. The excision of the glands must therefore be carried out on exactly the same principles as the excision of the primary tumour—that is to say, a large circular area of the surrounding deep fascia must be exposed, dissected up from its circumference towards the infected glands, and removed in one piece with them. In late cases it may even be right to remove an area of skin over the infected glands, but such cases are probably inoperable.

FIG. 16.

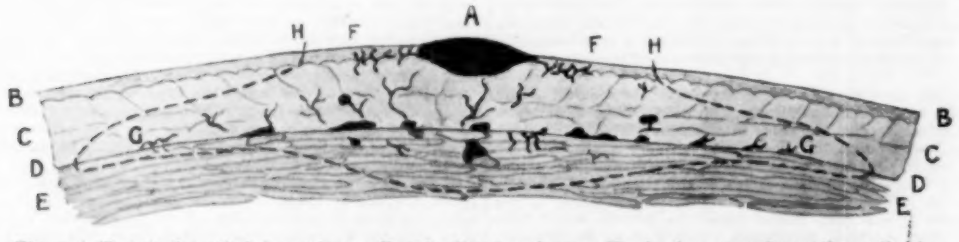


Diagram to illustrate the method of removing a malignant cutaneous melanoma. The drawing represents a section vertical to the skin surface through the centre of the growth. A represents the primary growth. B, Skin. C, Subcutaneous fat. D, Deep fascia. E, Muscle. The permeated area of the lymphatic system round the growth, represented by blotches and sinuous lines, extends as far as F F in the skin and as far as G G in the plane of the deep fascia. H H are the points where the circular skin incision intersects the section. The dotted line commencing at H H represents in section the planes of division of the subcutaneous fat, deep fascia, and muscle. The knife should nowhere divide any of the permeated lymphatics; it will almost certainly do so unless the skin flaps are freely undermined.

I am aware of only one case which has been operated upon by the method I advocate, a case recently under the care of my senior colleague, Mr. A. Pearce Gould, at the Middlesex Hospital.

A. D., aged 63, had noticed in July, 1905, a small blue patch "like a wart" on the inner side of his right thigh which began to increase in size. In June, 1906, he noticed a lump in the right groin. On admission, July 6th, 1906, under Mr. Pearce Gould's care, a pedunculated tumour as large as a green walnut was found, ulcerated and dark red in colour below, but of a dark blue-black colour in its upper part. Around its narrow pedicle were one or two pigmented patches in the skin. The inguinal glands formed a mass as large as a Tangerine orange. The iliac glands were not palpably enlarged. Mr. Gould performed an extensive operation, removing an elliptical area of skin over the glands and the tumour, freely undermining the skin flaps for about three inches all round, and dissecting away the large exposed area of deep fascia from the underlying muscles and vessels. The anterior part of the sheath of the femoral vessels was taken away, along with the crural canal and the tissue within it. Healing was delayed by some sloughing of the lower skin flap. The defect was remedied by a Thiersch graft. The patient left the hospital on August 9th. In October a lump, fixed to the iliac vessels, was felt in the right iliac fossa. There was no recurrence in the thigh.[13]

SARCOMATA OF LYMPHATIC BOUNDARY ZONES.

A melanotic sarcoma may originate upon or near the line of demarcation of two adjoining lymphatic areas draining into different sets of lymphatic glands. This fact is of great practical importance, for, when permeation round the growth commences, the sarcoma cells, spreading centrifugally from their point of origin, will soon obtain access to the lymphatic trunks of both areas and will be carried embolically to both sets of glands. Thus, for instance, a sarcoma commencing over or near the middle line of the thorax will involve simultaneously the axillary glands on both sides. A sarcoma beginning at some point along a line drawn horizontally through the umbilicus—the line along which the lymphatics draining towards the axilla anastomose with those draining towards the groin—will simultaneously attack by embolism both the inguinal and the axillary glands of the corresponding side. It is therefore necessary in all cases of melanotic sarcoma to consider the relation of the growth to the lymphatic areas. In sarcomata of lymphatic boundary zones it is imperative to remove, along with the primary growth, the *two* sets of glands corresponding to the two lymphatic areas involved. The practical importance of these considerations is well illustrated by the following case.

A woman, aged 56 years, came under the care of my friend, Mr. Jocelyn Swan, at the Brompton Cancer Hospital. She had had a dark raised mole on the right lateral aspect of the abdominal wall as long as she could remember. It was situated at the level of the umbilicus. At the age of 54 years the mole became ulcerated, with discharge and bleeding; a year later it was removed by her medical attendant. Six months later recurrence took place in the outer end of the scar, and a year after the operation Mr. Swan found the right inguinal glands enlarged to a mass the size of a hen's egg. Their enlargement was first noticed five months after the operation and gave rise to an aching pain in the groin. About the same time a small nodule appeared in the upper and outer quandrant of the right breast, and shooting pains were felt in the right shoulder and axilla. This mass became fixed to the skin and to the pectoral fascia. A mass of glands of about the same size as the mass of inguinal glands, and much larger than the lump in the breast, was present in the right axilla. No other enlarged lymphatic glands were present. There was at this time no loss of flesh. Though Mr. Swan considered the case almost hopeless he removed the breast and axillary glands by a Halsted's operation, and subsequently very freely excised the recurrent nodules in the abdominal wall and the enlarged glands in the groin. The inguinal and axillary glands showed melanotic deposit; the other metastases were colourless. Recurrence took place shortly in the right iliac fossa and in the nape of the neck near the occipital protuberance. One or two doubtful nodules were felt in the right axilla. Paralysis of the left leg and arm followed, but proved temporary. The occipital swelling increased in size and gave rise to intense pain, while the other metastases retrogressed and one in the right breast disappeared. The patient died five months after the second operation with pulmonary œdema.

In this case the axillary and the inguinal glands each formed masses of about the same size, so that their simultaneous invasion rests on strong evidence. It is evident that the proper treatment of this case, had Mr. Swan seen it early enough, would have been the free excision of the mole with a surrounding area of deep fascia, and the simultaneous removal of the inguinal and axillary glands of the same side, whether they could be felt enlarged or not. It may, indeed, be said that the malignancy of the mole was not established at the time it was excised, and this raises the question of the clinical diagnosis of malignancy in moles.

THE CLINICAL DIAGNOSIS OF MALIGNANCY IN MOLES.

When a pigmented wart or mole increases in size, ulcerates, or gives rise to bleeding and discharge it should invariably be treated as a malignant tumour. The key to success in the operative treatment of melanotic growths lies in the general adoption of this rule. To wait for the establishment of the diagnosis by palpable enlargement of the regional lymphatic glands is to court disaster. The complete operation for melanotic sarcoma, already described, should be carried out without delay. The removal of the regional lymphatic glands is not a very severe surgical procedure as

[12] H. W. Acton: The Middlesex Hospital Journal, April, 1905.
[13] Pearce Gould: Archives of the Middlesex Hospital, vol. ix., p. 1.

an insurance policy against such a terrible disease. But some surgeons may consider, wrongly in my opinion, that removal of the glands is unjustifiable until conclusive evidence of the malignancy of the tumour has been obtained. For this purpose microscopic examination of a small portion of the primary tumour is often valueless, for an innocent mole may present the typical appearance of an alveolar sarcoma. Proof of malignancy can only be obtained by a systematic examination of the whole of the excised piece of tissue at the centre of which lies the suspected mole. Two adjoining diametric slices are taken, vertically to the skin surface, through the centre of the suspected tumour. Each slice should be about one-eighth of an inch thick. The slices are fixed, hardened, and cleared. One of them is preserved as a translucent naked-eye specimen; the other, divided into pieces of suitable size, is submitted to microscopic examination. If beyond the limits of the primary growth in the naked-eye specimen any trace of black cords or dots can be seen, and if in the microscopic specimens permeated lymphatics or perivascular infiltration can be detected beyond the obvious edge of the neoplasm, the malignancy of the tumour is shown beyond the possibility of doubt. Removal of the regional lymphatic glands must in such a case be undertaken without delay. If the surgeon waits for obvious enlargement of the lymphatic glands, permeation of their tributary and efferent trunks may probably by that time have carried the disease beyond the reach of his knife.

THE OUTLOOK FOR OPERATIVE TREATMENT.

In the future, as in the past, many cases of malignant cutaneous melanoma will doubtless present themselves for treatment when they have already become inoperable, and to such cases the terrible lines of Fitzgerald's "Omar" may be forcibly applied:—

> "The moving finger writes, and having writ
> Moves on: nor all your Piety nor Wit
> Shall lure it back to cancel half a line,
> Nor all your tears wash out a Word of it."

But fortunately we are not in all cases restricted to the helpless recognition of accomplished facts, and even in dealing with malignant melanoma an intelligent anticipation of the trend of events may sometimes avail to stay the finger of Fate. There can be little doubt that the failure of surgery to deal successfully with malignant melanoma of the skin is partly due to causes within the surgeon's control, in other words, to defective methods of operation. The methods still employed in dealing with melanotic growths of the skin are precisely those which years ago gave such deplorably bad results in the treatment of carcinoma of the breast. Formerly the tumour, with a small circumferential area of skin, was cut out from the breast and the axillary glands were removed, if at all, only when palpably enlarged. Even when the glands were excised the surrounding zone of permeated lymphatics in the breast, in the deep fascia, and in the muscles, was left intact to reproduce the disease. Nowadays the improved operation for breast cancer produces prolonged or permanent immunity in about 50 per cent. of cases. And upon the evidence I have laid before you I venture to predict that the application of more thorough and scientific methods to the surgery of cutaneous melanomata will produce a corresponding, though perhaps a smaller, improvement in the results of operation.

NOTES ON 130 CONSECUTIVE EXTRACTIONS OF CATARACT WITHOUT A FAILURE.[1]

BY CHARLES HIGGENS, F.R.C.S. ENG.,
SENIOR CONSULTING OPHTHALMIC SURGEON, GUY'S HOSPITAL.

THE materials for this paper are taken from my private case-books. Most of the operations were performed in nursing homes or in the private ward of Guy's Hospital but a certain number were done in hotels, lodgings, or private houses. The cases are arranged in the order in which I first saw the patients and most of the operations were performed in the same order but some few were not done till years after I was first consulted. The number of patients is 124, both eyes being operated on in six cases. 127 were nuclear cataracts. The ages of these patients varied between 45 and 100 years, there being one of the latter age; six were 80 years or over. Two patients had cortical cataract; in one, aged 35 years, both eyes were operated on; in the other, aged 40 years, one only was done. The results are: eyes, vision $\frac{6}{6}$ or better, 115; eyes, vision less than $\frac{6}{6}$, 15. Of these the want of sight in seven was due to causes not connected with cataract. Case 1.—Vision $\frac{6}{9}$ and J. 10; high degree of myopia with extensive choroidal changes. Case 2.—Vision J. 10; dense old corneal opacities. Case 3.—Vision J. 10; severe old iritis, closed adherent pupils; iridectomy in both. Case 4.—J. 12; albuminuric retinitis. Case 5.—Vision $\frac{1}{60}$; large hæmorrhage on optic disc. Smaller ones with white patches in macular region. Case 6.—J. 14; old iritis and choroidal atrophy. Case 7.—J. 4; high degree of myopia and extensive old choroidal atrophy. None of these eyes at time of operation could see more than hand movements and some had bare perception of light, so I think I am justified in calling them successful so far as the operation for cataract is concerned. Case 7 is worthy of some further notice: the eye had doubtful perception of light and my note of the case made two years before the operation, when there was but slight lens opacity, says vitreous opacity, much choroidal change, detachment of retina. Vision *nil*. I operated at the patient's earnest request and the result surprised me. This case and the first of the seven, as well as some others I have seen, lead me to throw out the suggestion that a diseased lens may in some way cause much greater loss of sight than can be accounted for by its opacity alone. In both these cases the improvement of vision after extraction was much greater than I expected.

Some other observers have, I think, noticed the same thing, and I remember Mr. Robert W. Doyne mentioning it to me some month. ago in connexion with retinitis pigmentosa. The remaining eight cases merely require needle operations. Some of the patients cannot screw up their courage to undergo further operation. Others are satisfied with what sight they have. Case 1, J. 14; Case 2, $\frac{6}{9}$ and J. 6; Case 3, $\frac{6}{9}$ and J. 4; Case 4, J. 8; Case 5, $\frac{6}{9}$ and J 4; Case 6, J. 12; Case 7, J. 10; and Case 8, J. 14. Of the remaining 115 vision is in 9 $\frac{6}{6}$, in 34 $\frac{6}{9}$, in 40 $\frac{6}{12}$, in 25 $\frac{6}{18}$, in 6 $\frac{6}{24}$, and in 1 J. 4, but the patient was bedridden. I had no large types to examine him with, but he could see all his pictures and objects in his room, and he wrote me that he was very much pleased with the result of the operation.

Of the 130 extractions 83 were performed without iridectomy. Of these 57 had circular, central, or nearly central and more or less moveable pupils. In 23 the pupil was eccentric, five of these required removal of prolapsed iris, and two iridectomy. In three the condition of the pupil was not noted. In 57 eyes the extraction was associated with iridectomy, performed at the time of extraction or previously. In some the iridectomy had been performed before the patients came to me. In others I did the iridectomy for closed pupil, or other result of previous iritis or for corneal opacity, but only once as a simple preliminary to extraction. In two of these 57 eyes division of opaque membrane with Wecker's scissors was required. In 57 eyes needling for opaque capsule was performed, in some more than once. In one case a traction instrument was required for removal of the lens. In no case of the whole 130 was vitreous lost. In six cases glaucoma occurred as a complication. In one an attack of acute glaucoma came on two months after the extraction; it was relieved by sclerotomy, but returned in five days and was again relieved by sclerotomy; 12 days later it reappeared but yielded to eserine and hot bathing. 18 months later vision was $\frac{6}{9}$ and J. 1 but there was some contraction of the field below and to the inner side. 13 months later tension was + 1 and vision was $\frac{6}{9}$ and J. 4. Iridectomy was performed and opaque membrane cut across. Six months later (three and a quarter years after the extraction) vision was $\frac{6}{9}$ but central vision alone remained. Case 2, iritis with glaucoma, for which iridectomy had been performed, occurred many years before the date of extraction. Case 3, acute glaucoma came on a fortnight after a needle operation and was cured by iridectomy. Case 4, acute glaucoma ten months before extraction, was cured by iridectomy. Needle operation eight months after extraction was followed in four hours by attack of acute glaucoma;

[1] This article was accompanied by an excellent table giving a detailed analysis of the main facts of each operation. Mechanical considerations prevented the publication of this table in our columns. The facts recorded are, however, so well summarised by the author that the value of his communication is in no way diminished by the omission of the table.—ED. L.

cured by sclerotomy. Case 5, needle operation, followed by acute glaucoma three months after extraction; cured by iridectomy. Case 6, chronic glaucoma, commenced three months after extraction; cured by iridectomy. A second attack six months later was cured by sclerotomy. In two of these cases the glaucoma followed immediately upon, and was probably caused by, a needle operation. The cases are Nos. 1, 41, 48, 56, 95, 115, all recovered with vision $\frac{6}{9}$ or better.

Astigmatism varying in degree from 0·50 to 8 D. is noted in 74 eyes, and I expect that it occurred in many more, but I do not think I was so careful in looking for it in my earlier cases; had I done so I think it probable that the vision of several cases given as $\frac{6}{9}$ and $\frac{6}{12}$, with simple spherical lenses, might have been raised to $\frac{6}{6}$, $\frac{6}{5}$, or even $\frac{6}{4}$ with compound lenses. The very frequent occurrence of astigmatism after cataract extraction suggests that if it can be produced by an operation, it can be cured by the same means; and it seems to me that the operative treatment of high degrees of myopic astigmatism is a matter requiring attention. In all my cases the astigmatism was in or approaching the vertical meridian, showing that the cornea is flattened towards the incision; so that if an incision were made for the cure of astigmatism, its direction should be at right angles to that meridian of the cornea which it is desired to flatten. I say advisedly myopic astigmatism, because what is done by an incision in the cornea is to cause flattening, and if one were made in a hypermetropic eye it would have to be planned so as to flatten the least hypermetropic meridian, and so would increase the total hypermetropia and the patient would be little if any the better for it; at anyrate, he would still have to wear glasses.

The question of performing extraction in one eye, when the other has sufficiently good vision to enable the patient to follow his usual avocations in life without difficulty, seems to be one upon which ophthalmic surgeons are not quite in agreement. I see patients from time to time who have been told the cataract must be removed without delay or that a preliminary operation must be performed at once. In some cases the surgeon has even gone so far as to emphasise the pressing necessity for immediate operation by requesting the patient to wait a few minutes whilst he telephones to his nursing home to inquire if there is a vacant room so that he or she may be taken in at once; and all this when the other eye has vision $\frac{6}{9}$ or better, can read J. 1, and has little or no opacity in its lens. I never recommend extraction in one eye (when the other sees well enough for the patient's requirements), for visual reasons only. I tell him that from that point of view he will gain little or nothing from an operation, but that if he has any other reason for wishing it done I am quite ready to do it. Some people do not like the look of the eye, or others do not like the look of it and decline to employ persons who appears to be blind in one eye. In one case, No. 114 in the list, the right eye had a very visible cataract, whilst the left had vision $\frac{6}{9}$ and no lens opacity. The patient was a handsome woman of 45 years with daughters to take into society, and she did not like either the look of her eye or the remarks other people made about it. I extracted the cataract with the result that not even an expert could have told which eye had been operated on without making a special examination. I have extracted cataract existing in one eye only, for medical men, because their patients noticed it, and I have also done it for persons going abroad for lengthened periods whose sound eye might possibly become useless before their return, and I do it in cases where the lens appears to be undergoing degenerative changes and is likely to become dislocated. There never can be any hurry about a cataract extraction. An eye which has had only perception of light 30 years or more will see just as well after extraction as one that has only been in the same condition 12 months or less. Cases 72 and 89 are instances of this; in the former the eye had been useless 25 years, in the latter 46 years (the cataract was probably congenital), but vision after extraction was $\frac{6}{9}$ and J. 1 in the first, $\frac{6}{9}$ and J. 4 in the second.

The question of extraction in the second eye is also a matter about which the profession does not seem agreed; my practice is not to recommend it in any case where the operation on the first eye has been entirely successful. But should the result of the first operation be unsatisfactory or the eye become damaged from disuse or injury at any time after it, then I strongly advise the patient to have the second eye done. I also extract in the second eye if the patient wishes it, or for reasons the same as those already given when speaking of cataract in one eye only. In this series I have operated on both eyes in six patients. The second eye was done in five cases by the patient's desire, and in one because the sight of the first eye was lost from detachment of the retina. Two cases are noted of albuminuric retinitis, one of which died from uræmia four years after the extraction was performed. Diabetes is noted in one, and the retinitis dependent on it spoilt the result of what was otherwise an entirely successful operation. How many more of my patients had diabetes I do not know, for I never take it into consideration when proposing an operation for cataract, and do not inquire about it; it makes no difference whatever to the result, except in such rare cases as the foregoing and in quite young subjects who are obviously very ill and unfit for an operation of any kind.

My method of operating is simple. I use antiseptics to the extent of thoroughly cleansing the eye with perchloride solution 1 in 4000 and afterwards with 10 per cent. boric acid solution, which I also use for washing during the operation. For the application of solution and for sponging I use swabs of cotton-wool. I have never gone to the extent of shaving the eyebrows, cutting the lashes, and covering the face with a carbolised towel with a hole in it for the eye. If the conjunctiva is in an unsatisfactory condition I do my best to set it right; if discharge from the lacrymal sac exists I do my best to cure it, and failing that tie up the canaliculi, as recommended by Dr. Buller of Montreal, so as to keep in the discharge until the operation wound has had time to heal. Of the 124 patients operated on two had chloroform and one had A.C.E. mixture; the remainder were operated on under local anæsthesia, cocaine being used in all. At first I used it of varying strengths, but have for some years used a solution of 5 per cent. I am so thoroughly well satisfied with the action of cocaine that I have never tried any other of the local anæsthetics.

I perform my operation in the following manner. The eye having been thoroughly cleansed and cocainised I first pass a silk suture through the conjunctiva below the lower corneal margin; next direct the patient to look downwards, and having got the eye into the required position draw the suture moderately tight and have it fixed on the cheek by the thumb or finger of an assistant. I use no other fixation. I next draw the upper eyelid upwards sufficiently to expose the upper margin of the cornea. I never use a speculum or fixing forceps, but keep the lid in the required position with the index finger and steady the globe by pressing very lightly upon its inner surface with the second finger of the same hand. Then with a Gräfe's knife I make a section in the sclero-corneal junction forming a flap of rather more than one-third of the cornea. As soon as the incision is finished I tell my assistant to let the suture go, hold it myself, and lacerate the capsule. I then remove the lens by pressure with the thumb or forefinger applied to the surface of the lower lid, just below the lower margin of the cornea, aided by counter pressure applied in the same manner above the incision. If the pressure is properly applied the incision begins to gape, the iris protrudes, the pupil dilates, and the lens escapes through it. Having removed the bulk of the cataract I take care to press out all cortex, and then if the iris has not returned to its normal position I replace it by rubbing the upper lid lightly upon it and if that does not suffice I push it back with the curette. In some cases pressure through the lid will not cause the lens to escape; in such, I remove it by light pressure with the curette applied directly to the eyeball. I never hurry over the operation, but when the lens has been entirely removed and the iris has returned to its normal position I leave the eye exposed to the light for a few moments; by so doing the pupil contracts and remains contracted and the risk of prolapse is lessened.

After the operation I cover both eyes either with a pad of sal alembroth wool and gauze or Gamgee tissue, or pads specially made for the purpose, secure the pads by a light bandage, and put the patient to bed, where he remains for three days. I remove the dressing on the second day but reapply it, and afterwards dress the eye every day, but keep both eyes bandaged for a week, without opening either unless there is some special reason for doing so, such as pain, swelling or redness of the lids, or unusual discomfort. If prolapse of the iris occurs to any considerable extent I remove it as soon as I find it; small prolapses I leave alone.

With regard to iridectomy, I perform it in all cases where there are numerous synechiæ or where from any cause I expect that the pupil will not dilate sufficiently to allow

the easy escape of the lens, in cases of increased tension, and in all cases where there is a yellowish nucleus, with cloudy cortex, without any definite striæ—that kind of opacity which always appears to be facing one whichever way the eye is looked into, which is ill-defined and surrounded by a more or less distinct red reflex. I know tha kind of cataract: the cortex is always sticky and difficult to get away. Cataracts with milky or pearly nuclei and striæ scattered plentifully in the cortex, much of which may remain transparent, come away very easily and, though immature, do not need iridectomy. In any case where I have commenced operating with the intention of not performing iridectomy, I do it if the pupil will not dilate and if after extraction the iris cannot be returned or, if returned, seems inclined to prolapse again. If the iris is wounded in making the section, as sometimes happens from its rolling round the edge of the knife, I do an iridectomy, including the wounded portion. In 128 of these cases the section was made upwards. In the two remaining iridectomy had been performed down and in in one, and down and out in the other, and the section was made in a corresponding direction.

Brook-street, W.

THE SUCCESSFUL TREATMENT OF TUBERCULOSIS AND LEPROSY

BY MEANS OF AN ALBUMINOID METABOLIC PRODUCT, CHEMICALLY ALTERED, OF A BACILLUS DISCOVERED AT BOSHOF (ORANGE RIVER COLONY) IN 1898.

BY S. F. WERNICH, M.D. EDIN.

(A Preliminary Note.)

No attempt will be made to prove that the bacillus in question is, or is not, the common bacillus subtilis of books, firstly, because the verdict, whatever that may be, cannot affect either the preparation of the remedy or the results obtained; and secondly, because the references made regarding bacillus subtilis in bacteriological literature are so contradictory that the task appears a somewhat hopeless one. A few extracts from my notes will be given and a few experiments described from which it will appear that some of the characteristics of this bacillus are those of bacillus subtilis, while others seem to show that it is a new one. It is possible, of course, that the latter may have been brought out by growth in peculiar circumstances, or, as I am inclined to believe, in more favourable circumstances. Whatever the case may be, it appears extremely likely that under the designation bacillus subtilis we are dealing with a group and not a single individual, hence the fact that each investigator has his own pet bacillus subtilis differing in some respects from those of others. To quote literature on this point will be a waste of time; I shall therefore at once proceed to describe the origin and characteristics of the bacillus. It was first obtained at Boshof, Orange River Colony, in 1898, as a practically pure growth in an infusion of a herb that was suspected to contain an alkaloid. Later, while studying the bacteriology of common wheat meal and bran fermentations, it was again encountered. This time its true home was found and the fact was discovered that it plays a part in practically all spontaneous decompositions or fermentations to which wheat meal or bran is liable. In one case it feeds on the products of decomposition of one germ, and in another it furnishes pabulum for others, while in yet another it enables anaerobic organisms to grow by using up all the oxygen in the medium. The subject of the spontaneous decompositions of wheat meal and bran under varying conditions is a very large one, but also a very interesting one, and I hope at some future time to publish some investigations on the matter.

If a quantity of ordinary unsifted wheat meal is beaten up into a stiff paste with boiling water and ½ per cent. salt, care being taken to let boiling temperature have its full effect so as to destroy the lactic acid germs present as much as possible, and this paste is spread out on the sides and bottom of a covered vessel, then after from 12 to 24 hours of incubation at a temperature of from 128° to 132° F. it is found that several spots, varying in size, of a red or pink colour, have made their appearance on the surface of this paste. The vessel must be transferred to the incubator at once and the paste spread out so as to have as large a free surface as possible. On examining these red spots microscopically they are found to consist of a layer of very large round spores firmly bound together so as to form quite a tough skin. On transferring a bit of this skin, thoroughly washed with sterile water so as to free it as much as possible from undesirable micro-organisms, to a suitable medium kept either at room temperature or incubated, the spores will develop into large bacilli which can then be readily isolated by the usual methods. Boiling up for an hour a quantity of bran with five or six times the bulk of water and rendered strongly alkaline with bicarbonate of soda will give the same result after two or three days of incubation. Here, however, a uniform white zoogloea forms over the whole surface which somewhat rapidly turns red and becomes converted into a tough leathery skin which can be removed entire and which can be fairly roughly handled without breaking. This skin, too, like the red spots on the meal paste, consists of large round spores firmly bound together in a single layer. On growing the bacillus obtained from these spores in various media it is found to possess the following characteristics. 1. The bacillus forms spores which, like those of the "hay bacillus" group, will stand at least an hour's boiling. 2. It stains like ordinary saprophytes with the usual aniline dyes. 3. It is strongly aerobic and grows best in somewhat dilute solutions where, when incubated at optimum temperature (from 122° to 126°) it grows from the surface downwards. 4. In some media, to be described later, it forms a fulminating growth at room temperature, but its optimum temperature seems to be between 122° and 126°. It grows well even at 132°. The following differences appear when incubated at 104° and 126°. At 104° F.: (*a*) The medium becomes cloudy at first and is only cleared up after prolonged incubation or not at all; (*b*) a white zoogloea rapidly forms; (*c*) the bacilli are thin and small; (*d*) it takes 60 hours to get played out; and (*e*) a sickly sweet odour is produced like that when growing bacillus subtilis. At 126° F.: (*a*) The medium is clarified at once and from above downwards, a heavy precipitate falling in most instances, and the bottom layer of the medium remains germ free and undecomposed until the last; (*b*) there is no trace of zoogloea even after very prolonged incubation—five to six days; (*c*) the bacilli are large and very broad and there are huge filaments; (*d*) the process is mostly finished in about from eight to 12 hours; and (*e*) there is absolutely no odour. 5. A considerable amount of acid is formed by this bacillus, for it is found that in a four to eight grain of caustic soda per pound watery extract of fresh meat, bran, or egg albumin qualified with grape sugar, the medium is rendered acid inside 24 hours when incubated at 126° F. and a heavy precipitate of alkali albumin is formed. 6. It bears the presence of a considerable quantity of lactic acid, but all volatile acids—acetic, butyric, &c.—interfere with its growth. 7. Its most favourable medium is a diluted soured bran mash. 8. The rapidity of growth in suitable media is phenomenal. 9. It readily peptonises coagulated albumin and grows well in both acid and alkali albumin. 10. In suitable plate cultivations—agar gelatin of neutralised watery extract of ground peas and grape sugar, &c.—it forms circular whitish colonies with a smooth margin. 11. On solid media it forms a wrinkled pellicle and here a neutral or alkaline medium is usually more suitable than an acid one. 12. It liquefies gelatin. 13. It requires a considerable quantity of sugar for its nourishment. 14. It forms a zoogloea under unfavourable conditions: (*a*) incubation below 120° F.; (*b*) want of sugar; (*c*) want of albuminoids; and (*d*) too alkaline a medium.

At the time when these experiments were started my object was to find whether it was not possible to prepare artificial antitoxins for some of our common germ diseases. Those were the early days of bacteriology and the subject then was somewhat in its infancy. Very little was known of antitoxins and their specificity. There were several theories in those days as to how immunity was produced, and, like everybody else, I had my own, which, briefly stated, was as follows. When the organism is attacked by a germ producing any one of the well-known germ diseases the symptoms, &c., are due to the circulation in the blood of a poison—now called toxin—of some sort or another. It was argued that this poison, instead of being entirely thrown off, and so allowing the disease to go on indefinitely, was converted, partially at least, into an antitoxin. This conversion was looked upon as being entirely of a chemical nature. Now the blood being the great oxygen

carrier, it was thought that most likely this chemical conversion would be a process of oxidation. The use of our old, and now very much neglected, friend permanganate of potash in disinfecting putrid materials did much to fix this idea in my mind. To isolate and oxidise the toxins of pathogenic micro-organisms was out of the question, but the idea occurred to be that we could utilise the whole army of saprophytes, and possibly the oxidised metabolic products of some of them at least could be utilised to fight bacterial disease. The first germ selected to furnish such a product was the one at present under consideration. To grow this germ and to show that it had produced certain definite chemical compounds was easy enough, but there were difficulties regarding their oxidation. A current of nascent oxygen might or might not do it. Various futile attempts were made which need not be described here. The idea at last occurred that we could fix these compounds to materials capable of combining with oxygen. Pyrogallic acid, tannic acid, &c., were thought of. At last the latter was selected. The bacillus was then grown in various media and after varying periods of incubation the metabolic products were precipitated with tannic acid. The rapid production of a coloured from a colourless precipitate, especially after aeration, satisfied me that I now had an oxidised bacterial product. After satisfying myself that the stuff was perfectly harmless by giving it to dogs and cats and taking it myself in considerable quantities for days, I tried it in a couple of cases of syphilis. Here, however, it appeared to do harm. In one or two cases of tertiary syphilitic ulceration, after a temporary improvement due to removal of inflammatory exudation, the destruction of tissue seemed to go on with greater rapidity. In two cases of syphilitic rupia the crusts rapidly dropped off after a few doses per os and left open bleeding ulcers, which, however, rapidly healed under iodide of potash. A case of scirrhus of the breast was next treated. The whole breast was hard and tense and in the position of the nipple, which had disappeared, was a scooped-out ulcer about two inches in diameter in a circular cartilaginous mass three inches across. After four or five days, taking two doses per os daily, the whole breast collapsed and became soft and flaccid. The cancer mass was now hanging outside the breast in the form of a soft, red, very vascular lump about one-half its former size. The temptation to snip it off with a pair of scissors was very great, but the patient, who was delighted with the result, informed me that she had just received by post a pot of ointment from a cancer curer and she thought that the ointment would do it much better and more thoroughly than the scissors. The patient, who was a visitor, left shortly afterwards and I lost sight of her. From the effect produced in the above cases I thought that most likely leprosy, especially the tubercular form, should derive some benefit from it. Some months afterwards a case of mixed leprosy was brought to the Bosbof Gaol Hospital and with the permission of the Orange Free State Government treated with results described hereafter. Encouraged by the results obtained in this case it was not difficult to see that the twin brother of leprosy—namely, tuberculosis, should also yield.

Attempts were now made to prepare the best product possible and for this purpose the bacillus was grown in an endless variety of media. It was soon found, however, that although some media supported the bacillus well little or no active stuff was found in them. For the production of the latter we require albumin just sufficiently broken down to enable it to remain in solution on heating to 158° F. or boiling. Acids and alkalies can be used for this purpose but the best of all is one of the lactic acid bacilli of the distiller. It was also found that a sharp line had to be drawn between albumin derived from the animal or vegetable kingdoms. Preference is to be given to the latter. I can only, therefore, recommend the tannate of the products obtained by growing the bacillus in a diluted soured bran mash. Even a pure growth in a vegetable medium is much inferior to the double growth of the bacillus and the lactic acid bacillus. In this bran mash the gluten becomes altered by the lactic acid bacillus to such an extent that it easily goes into solution and now behaves very much like acid albumin. The tannate of unaltered gluten is a nummular sticky material. The tannate of the altered (acid) gluten is white and granular. The tannate of the product derived by feeding the bacillus on this altered gluten constitutes the remedy and will be described hereafter. The following are some of the media in which the bacillus has been grown.

A. *Lactic acid extract of meat*.—Make a 24-hour cold extract of fresh minced meat and distilled water containing eight minims per pound of lactic acid and ½ per cent. common salt. Filter. Add 2 per cent. of grape sugar. Sterilise. Inoculate from a recent growth on agar. Incubate at from 120° to 126° F. for from 60 to 70 hours. Filter. Precipitate with solution of tannic acid *at once*. A white precipitate is given which soon turns to what I have called all along in my notes a "pink-blue"—that is, a precipitate which is bright red or pink by transmitted light, and a bluish or, better still, steel-grey, by reflected light. The best way to examine a precipitate is to let it settle down in a white enamelled dish, when the margin is found to be a bright transparent red and the rest of the surface steel-grey. The precipitate should be excessively fine and not flaky or coarse. All the best products are pink-steel-grey. In impure growths there are various shades of "blue," but the correct one is easily learnt with a little practice. A precipitate here, as in the various bran combinations, may when very impure be blue throughout, there being no pink edge under water. The above precipitate turns black when dried and is readily pulverised.

B. *Caustic soda extract*.—This can be made either with fresh minced meat or bran and was made on a large scale as follows. Take 1600 grains of common salt, 160 grains of caustic soda, one pound of fresh minced meat, and two pounds of water under 120° F. Cover. Stand at room temperature for 24 hours, after which add 22 pounds of cold water. Stand for six hours. Filter. Put into 16 flasks (four-pound canned fruit bottles with specially constructed covers were used) and add some more water until each flask contains three pounds of liquor. Add 2 per cent. of grape sugar. Sterilise. Inoculate. Incubate at from 120° to 126° for from 60 to 70 hours. Filter. Precipitate at once. The flasks should have a perfectly clear, yellowish-brown liquor with no zooglœa and a heavy precipitate at bottom. The tannate here is a fine red.

C. Somewhat crude products but quite good enough for recent acute or old quiescent cases of pure tuberculosis of the lungs, lupus erythematosus, and lupus non-exedens can be made as follows. Digest for from 24 to 30 hours at room temperature half a pound of fresh minced meat or whites of four eggs in 13½ pounds of water and one and a half drachms of lactic acid or three drachms of hydrochloric acid, or, better still, three drachms of hydrochloric acid and about a teaspoonful of papain (Finkler). Put into a 16-pound tin furnished with lid (enamelled is best). Heat up to from 162° to 164° F. Stir in a quantity of bran to form a fairly thick mash. The quantity of bran added should be enough to leave when settled about from two to three inches of free liquor on the surface. Cover tightly with the lid and one or two layers of lint. Put at once into an incubator set to keep up a temperature of 126°. Incubate for 14½ hours. The incubator should now show a temperature of from 126° to 128°. The temperature of the mash itself is from 130° to 132° now. Take out and fill up tins at once with boiling water, stirring well as the water is added (best done with Dampfmaischholtz of the distiller). Temperature of mash should now be about 152°. Cover tins again. Stand three hours. Strain while still hot into open dishes. Stand three hours exactly. Pour off supernatant liquor, which precipitate. Precipitation requires here a certain amount of care. In the above we have set up a somewhat feeble lactic acid fermentation, but owing to the high temperature very little, if any, lactic acid is formed. The boiling water is added to kill or, at all events, temporarily to paralyse the lactic acid bacilli. The bacillus grows very rapidly after straining but can only be allowed three hours, otherwise a lactic acid bacillus forming very much more acetic than lactic acid and which can only be completely killed off by a boiling temperature enters the field. This bacillus, which is a short rod about twice as long as it is broad, feeds on the products of the bacillus which furnishes the remedy and produces a blue tannate.

The tannate obtained in the above process is white turning rapidly into a very heavy excessively fine dark maroon red. It is very gummy and sticks to filter paper. When dry it is pitch black, very hard, and breaks with a vitreous fracture. It is not easily pulverised. In powder form it is again maroon red. The amount of precipitate got is small for the amount of labour. As there is a very large amount of undigested stuff here which gives a permanent white precipitate with tannic acid the latter should be added in very small and dilute quantities. The red precipitate comes down first and with a little practice the whole can be

brought down without touching the white. It should be thoroughly washed and filtered rapidly, otherwise the lacto-acetic acid bacillus described above turns the precipitate white and sour and it, of course, becomes worthless.

With practice success is fairly uniform in the above, but it should be pointed out that a bluish tinge is superadded in the tannate or indeed a pure blue got in the following circumstances: (1) when mash is too thin (too much top liquor); (2) when incubation is prolonged beyond 14½ hours; and (3) when the secondary fermentation (after straining) is carried beyond three hours. A white tannate only is got (1) when incubation is much below 126°; (2) when a cold water secondary fermentation is made, that is, when we do not paralyse the lacto-acetic acid bacilli; and (3) when the red tannate is filtered too slowly it is turned sour and white by lacto-acetic acid bacilli. The white is useless and the blue is nearly so.

D. *Secondary fermentation of a saccharified soured bran mash.*—In this method, which yields the best product we saccharify in exactly the same manner as the distiller saccharifies his malt mash, only we use bran in place of green malt. The saccharified mash when cooled to 130° is then inoculated with a pure culture of the bacillus 60 hours old and grown in a material like green malt wort, &c., and incubated for from 14 to 24 hours at 126°. The distiller does not of course prepare his saccharified mash for this purpose, but either lets it sour spontaneously at 122° or inoculates it with a pure culture of the distillery lactic acid bacillus (bacillus acidificans longissimus, Lafar, bacillus Delbruckii, &c.). The soured mash is then used for the cultivation of yeast. In the case under consideration the object is to get the bacillus to grow to a certain extent at least along with the lactic acid germ which appears spontaneously in our incubated saccharified bran mash. When the mash is now diluted with an equal part of cold water (boiling water is unnecessary here), strained, and allowed to stand, a "secondary fermentation" takes place, the bacillus growing at an enormous rate, and the rods and filaments formed here are the biggest objects in the shape of bacteria that I have ever seen under a microscope. As a consequence the supernatant liquor quickly becomes dark sherry-brown and clear. Precipitation is made after six hours but quite a good precipitate is got after three. There is no undigested stuff now, consequently we can use excess of tannic acid; there is therefore no white precipitate to avoid and when the experiment succeeds there is no risk of getting blue even on incubating the mash for 48 hours and allowing the secondary fermentation to go on 24 hours. However, under faulty methods we here again find "blue" creeping in as in C. The above method does not always succeed, and I frankly confess that in my hands failure is very much more common than success. I shall therefore fully describe the appearance and characteristics of the mash as well as of the tannate when successful, so that anyone repeating this work may know what to strive after. The mash is perfectly "quiet"—that is, there is not a gas bubble anywhere. The supernatant liquor is dark sherry-brown and clear. There should be no trace of top growth (zoogloea). It has a feeble but pleasant sour smell. The liquor of the mash itself effervesces strongly on adding sodium bicarbonate. Tannic acid gives with the top liquor a white, turning at once a beautiful "pink blue," which rapidly settles in a clear liquor from which no further precipitate can be got with anything. On adding tannic acid to the expressed liquor of the mash itself a permanent white granular precipitate is given (gluten altered by lactic acid germ). The tannate got from the secondary fermentation is like that of the top liquor, a "pink blue," but the colour is the only resemblance, for there are several differences between the two. The growth in the top liquor being a practically pure one, it is feeble in action, like all pure growths. In the mash itself, however, the lactic acid germ grew well and furnished the necessary albuminoid pabulum which the bacillus converts into the remedy. The top liquor tannate crumbles to pieces, small cubes, when dry, while the tannate of the secondary fermentation is a material almost as hard as horn, breaks with a vitreous fracture, and when a small piece is held up against the light it is found to be transparent and red like a piece of red glass. The effect of this material on a leper is marvellous. When pulverised it is bright red.

Another way to proceed is to copy F, that is, sour for about 24 hours a saccharified bran mash by means of a pure culture of a lactic acid bacillus (bacillus Delbruckii is readily isolated from soured green malt mashes). I have not been able to use the lactic acid bacilli of bran mashes for this purpose. Dilute with from one to two volumes of water at 130° F. and add a pure culture of the bacillus grown in green malt wort or ½ per cent. lukewarm salt extract of bran and grape sugar. The medium on which the bacillus is grown here must be acid and vegetable, as I have always failed with A and B and others of the same sort. Another way is to add two volumes of water at 200°, which will now bring up the temperature of the mixture to 158°. Stand open for one and a half hours and inoculate. Here again we do the same thing as the distiller, using a pure culture of the bacillus in place of a pure culture of yeast, as our object is a different one. In my hands this method has not given uniform success either. My difficulty has been to find a wort in which bacillus Delbruckii will grow well. The distiller's success is probably due to the fact that he is able to use the "hochdruck" process and so is able to force albumin into solution. The secondary fermentation is therefore often slow and when allowed to stand 24 hours will either give a permanent white tannate or a deep blue one.

E. *Salt extract of fresh meat.*—If a ½ per cent. salt-watery, cold 24-hour (or less) extract is made of fresh minced meat and a few drops of a culture such as B are added and left standing at room temperature a peculiar phenomenon is observed. A fulminating growth, I can use no other word, takes place here, just as in a diluted soured mash. In 15 minutes growth is visible to the naked eye, and in three hours numerous white round masses of various sizes have formed which gradually run together. In a deep vessel some of these masses will run to the surface and form a layer very much like pus; in a shallow vessel, however, they settle to the bottom. The top liquor is rapidly cleared up. In six hours the whole process is finished. These masses consist of myriads of bacilli bound together by a soft material which is really a precipitate formed from one or other constituent held in solution by the extract. I do not think that the material is a secretive product of the bacilli and I do not therefore look upon them as zoogloea masses. Tannic acid gives a permanent white precipitate here, with no tendency to colour up. It was once administered to a leper without any effect. The same thing is seen in lukewarm extracts, but the temperature must be below the coagulating point of myosin. When the fermented liquor is boiled no precipitate is given, showing that the albumin in solution had been used up.

F. *Lactic acid and salt extract of meat.*—This is more or less an imitation of L using lactic acid in place of the lactic acid bacillus, and meat and grape sugar in place of the saccharified bran mash. Make a 24-hour cold extract of fresh minced meat with water containing ½ per cent. salt and eight minims per pound of acid lactic. Filter. Add 2 per cent. of grape sugar. Inoculate with a few drops of pure culture of the bacillus from A or B. A very rapid growth is set up at once at room temperature, which becomes visible after 15 minutes. In two hours there is a heavy deposit and small lumps continue to settle down. In five hours, more or less, it is completely played out and the medium now consists of a clear brown liquor, with a heavy deposit at the bottom of the vessel. The process is therefore absolutely analogous to the secondary fermentation in a diluted soured bran mash. As in the soured mash, the extract can be heated up to 158° F. and then allowed to cool to 130° and inoculated, when the same result is got. In all these extracts and mashes, however, as in the liquor of a soured mash and, indeed, all media that I have employed so far, if we heat up to boiling point for purposes of sterilisation, even where no precipitate is formed a secondary fermentation is impossible, and we can only then incubate for 60 to 70 hours to get a good result.

Tannic acid gives a white turning blood red in above. Oxidation, however, is slow and is only complete when the tannate is exposed in a moist state to the air in the process of filtration. This fault can, however, be remedied by precipitating in the presence of the oxydases and diastase of bran which can be obtained by making a 158° F. watery extract of bran. I do not want to discuss the question as to whether bran contains an oxydase or not or whether there is such a thing in nature at all, but those who are interested in this question of oxydases may consult Oppenheimer: "Ferments and their Action" (Charles Griffin). It appears certain, however, that translocation diastase, of which bran contains a lot, possesses the power of oxidising some fresh tannates of animal and especially vegetable bodies.

There are several other combinations in which the bacillus can be grown, but I have selected from 7000 pages of notes those which indicate the general principles on which we have to proceed to prepare the remedy and which at the same time bring out the chief characteristics of the bacillus.

At this stage nothing can be said as to the nature of the products produced by the bacillus in various media, as the means at my disposal at present do not enable me to work out the matter satisfactorily, but it is hoped that at some future time I shall be able to visit one of the properly equipped laboratories in Europe, where, I have no doubt, it will be an easy matter to study the chemistry of the bacillus and in all likelihood considerably to improve the material with which I have been treating my cases. At the present moment it is sufficient to say that the active material is not produced in all media, as a very free growth can be got in some combinations without a trace of any active material being in evidence as proved by chemical and therapeutic means.

My object in publishing my work in an incomplete form is merely to induce others to take it up and give those finishing touches to it which are beyond the means of an ordinary practitioner in general practice. And while I make this remark I would also like to suggest to those who are more fortunately situated than myself to apply the same principles of precipitation by acid tannic and oxidation with the help, where necessary, of ferments, of ordinary tuberculin and tuberculin T.R. It is possible that the metabolic products of bacillus tuberculosis may be converted into an oxidised tannate with the help of one of the numerous ferments—oxydases, &c.—and so be converted into an antitoxin. As regards the intracellular toxins (tuberculin T.R.) if oxidation is not possible or desirable tannic acid will at least be a means of carrying them uninjured through the stomach into the bowel where absorption readily takes place, and when I am inclined to believe better results will be obtained than by the hypodermic method. The same principles could, of course, be extended to other pathogenic micro-organisms, and there is no reason why the group of harmless micro-organisms should not yield us products as useful as the one that forms the subject of this communication.

Tannic acid may probably also be employed to precipitate the active part or parts of all antitoxin sera, when a more stable product will be got and one more easily administered. The practitioner in a far-off place often has to throw away a life owing to his serum being too old and useless, or to the parents or patient raising objections to hypodermic administration.

Mode of employment.—On a few occasions the hypodermic method was resorted to but owing to the labour and time involved in preparing the material for this purpose, neither of which I could afford in a somewhat busy practice, I have been compelled to administer it by the mouth, air-dried and pulverised. The final product is insoluble in acids but readily dissolves in alkalies. It is administered when the stomach is empty and usually with a little sodium bicarbonate as a precaution. A portion is therefore absorbed in the stomach itself and what escapes destruction there is passed on to the intestine where the alkaline fluids readily cause absorption.

Mode of action.—When injected hypodermically the unaltered albuminoid body produces a thermal reaction with temporary redness and shrinking of lupus and leprotic patches. No permanent benefit, however, is produced.[1] The tannate, on the other hand, acts like a true antitoxin whether given by the mouth or hypodermically. There is here no local or general reaction. This, of course, applies to the product obtained in D. No elevation of temperature is produced; indeed, any pyrexia present—for example, in acute pure tuberculosis of the lungs—is speedily removed. A feeling of general well-being with improvement of appetite and rapid gain in weight, where there has been a loss, soon follow. Another reason for stating that it acts like a true antitoxin is the fact that the changes which take place under administration in a lupus or a leprotic patch are exactly those which we observe in places where nature partially or wholly effects a cure. In a considerable number of cases of lupus and of leprosy I have noticed that the disease progresses by fits and starts. This is especially true with regard to leprosy. During the quiescent stage nature seems to be able to throw the disease off in some spots at least, and here we have the three phenomena of pigmentation, desquamation, and absorption. The same changes are seen in cases of lupus and leprosy under treatment.

While the same material acts specifically in both leprosy and tuberculosis it is only right to state that the former requires the very best product, such as D, for its successful treatment and for a much longer period. The latter yields rapidly and readily to materials containing merely traces of the active product. The lung (phthisis) yields more readily than the skin (lupus). In fact, in no form of treatment, specific or otherwise, of any diseased condition that I am acquainted with, with the exception of diphtheria antitoxin in uncomplicated (pure) cases of diphtheria, is the result more rapid and certain than in cases of pure tuberculosis of the lung treated by this method.

Thus far three classes of cases have been treated successfully: A. tuberculosis of the lungs (including glands in the neck); B. tuberculosis of the skin; and C. leprosy. In treating these cases by two to three doses per os daily we find the following changes.

A. *Tuberculosis of the lungs.*—Consolidation is rapidly cleared up, recent cases taking from seven to 14 days and chronic cases somewhat longer, and other physical signs disappear, so that it becomes impossible to say by percussion or auscultation which lobe it was that was affected. Cough and raised temperature where present disappear, a sense of general well-being is produced, which very often makes the patient lose his or her head, appetite returns, and the patient rapidly puts on weight.

B. *Tuberculosis of the skin (lupus) and* C. *leprosy (skin lesions).*—The changes produced here are absolutely identical and consist of the three processes of pigmentation, desquamation, and absorption of the infiltrating material. In light-haired persons the patch becomes deep red, in dark-skinned ones mahogany-brown, and in black skins a jet black; desquamation soon follows but the superficial layer is no sooner cast off but pigmentation again appears. Meanwhile absorption is going on slowly, serous infiltration disappearing first and then cellular, and in the end a scar, or more correctly a patch of atrophied skin, is left behind. There is no pigmentation where the rete Malpighii is destroyed and in deep-seated infiltrations where the rete Malpighii is not affected (sometimes seen in leprosy) there is neither pigmentation nor desquamation. Pigmentation is most pronounced in exposed parts.

The cases treated will be taken seriatim as much as possible and the changes which took place carefully described so as to bring out the effect produced. It must, however, be distinctly understood that there has been a lot of groping in the dark as the subject was but badly understood at first and I was more often led astray than helped by quite a mass of both English and German bacteriological literature obtained from Europe from time to time. I purposely omit all references therefore in this paper. The result of my difficulties was that the material used from time to time varied much in therapeutic value, in fact, as a great deal of experimental work had to be done all along it follows that at times my patients for weeks at a stretch swallowed stuff that was totally inert. This was especially the case with the first five lepers.

In July, 1898, the late Free State Government very kindly placed five lepers at my disposal and arrangements were subsequently made to put me in charge of the new leper asylum at Bloemfontein and to give me the necessary laboratory appliances to carry on my investigations but the war unfortunately broke out with results known to everybody. It was made clear to all the lepers that they were to be the subjects of scientific experiment, made solely for the purpose of finding a remedy for their terrible disease and in no case was the hope of cure held out. It is strange that in all these cases and a number treated elsewhere subsequently there was not the faintest hesitation; in fact, several willingly offered to sacrifice their lives if thereby means could be found to put an end to the sufferings of others. It is still more strange, however, that in spite of this disregard of life all of them with one exception, where the face was affected, refused to be photographed.

The five Free State cases were the following:—

CASE 1.—The patient was a native male, aged about 40 years. The duration of the disease could not be settled, but

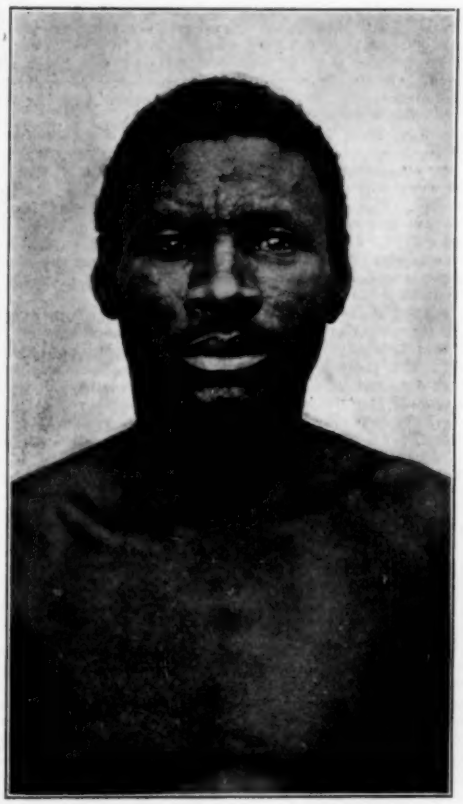
[1] This applies to a whole host of albuminoid bodies, albumoses, &c. See St. Petersburger Medicinische Wochenschrift, 17 (29) April, 1899, "Ueber die Wirkung der Bacterienproteine und der Deutero-albuminose bei der Lepra," Ed. Soonatz; also Matthes and Krehl, Archiv für Experimentelle Pathologie und Pharmakologie, 1896, vol. xxxvi., p. 437.

he appeared to have got rapidly worse during the previous eight months. There were four large patches of infiltration, rough and nodular, on the forehead, one above each eye, and two smaller ones between them. Large tubercles occupied nearly the whole of the right lower eyelid and there were several smaller ones on the cheeks, the right wing of the nose, &c. There was a large number of maculæ on the forehead and face, the neck, the body, the arms, and the legs. The face was distinctly leonine, the right eye being practically closed up. The total number of maculæ was between 100 and 200, varying in size from one-eighth of an inch to two inches in diameter, and on the front of the left shoulder was one measuring two inches by two and a half inches, while on the right side of the neck was one three inches by three and a half inches. The ears were swollen. The muscles of the forearms and hands were wasted to an extreme degree. There was slight contraction of the fingers. The patient had practically no power in his hands and arms. The skin of the forearms and hands was dry and scaly. The muscles of the legs were wasted to such an extent that he was unable to get up or walk. There were severe pains, especially at night, in the legs. The feet and legs were swollen. The skin of the feet and legs was dry and very scaly. Sensation in the feet and in the greater part of the legs and hands was absolutely gone. There was very little sensation (patchy) in the forearms. The ulnar nerves were swollen and nodular. The nail of the second toe on the left foot was gone; all the other nails were thick, scaly, and very brittle. The patient refused to be photographed.

Treatment was commenced on July 3rd, 1896. The patient was seen again about a week after, when it was found that the whole face had subsided so that it was less leonine and the tubercles stood out much more distinctly. After another week the leonine aspect of the face was completely gone and the ears presented a peculiar shrivelled-up appearance, the skin being puckered, especially the lobules. The patient was now able to open the right eye fully. It was next noticed that the tubercles and maculæ grew darker and darker until all the former and most of the latter became pitch black, those that were exposed to light getting much darker than the protected ones. Next all the parts that turned black desquamated. There was also very extensive desquamation in the feet and legs up to the knees. The tubercles threw off thick scabs, but in the case of the maculæ the epidermic layer thrown off was very thin. From the very commencement the tubercles diminished in thickness until August 25th when they were flat, puckered, and but slightly raised above the surrounding skin. It should be mentioned that this pigmentation and desquamation were repeated several times. The tubercles were soft and pliant so that when the patient wrinkled his forehead the natural transverse wrinkles ran right through them. After the desquamation had come to an end the maculæ grew lighter and somewhat reddish in colour, especially those on the neck, face, trunk, and upper arms. They were then soft and shrivelled and most of them were depressed (hollowed out) owing to the complete removal of leprous infiltration. When the skin was relaxed several of them formed quite a cup-shaped depression. A little later the small maculæ were represented by slightly whitish or decolourised patches which could scarcely be seen. The larger ones showed the same change, the decolourising process starting all round the margin, leaving a central red spot which ultimately also disappeared. At this stage it was found that the swelling of the feet and legs was gone, the removal of the swelling from the legs showing that there was very little muscle left; hence the patient's inability to get up.

On August 31st the patient volunteered a statement that sensation was returning in his hands, and on being tested this was found to be correct. There was no sensation as yet in the feet and legs. On examining the toe-nails it was found that they had grown about one-eighth of an inch, there being a piece of new white, smooth nail at the proximal end in each case. On the second toe of the left foot (which was without a nail at the commencement) a new and healthy nail was coming out. On Sept. 24th the patient had considerable power in his hands and was able not only to put on his shirt but also to button it. At the commencement what little he did was done with the thumb of the right hand. The sebaceous glands situated in areas occupied by tubercles on the face now secreted thick plugs of sebum, and these areas looked much like the maculæ at the stage when all leprotic infiltration had been removed. It should be added, however, that what was taken at the commencement as a single tubercle or infiltrated patch was found to consist of several islands the moment the serous infiltration was removed. On the 28th, so far two changes had been noticed since the patient was put under treatment: 1. Removal (now almost complete) of leprous infiltration. At first the subcutaneous œdema disappeared by which the feet and legs subsided, and the leonine appearance of the face grew less. The tubercles also stood out more distinctly and became for a time almost pedunculated, and what was at one time considered to be a single infiltrated mass became broken up into several islands. After the above change the tubercles and maculæ became absorbed. 2. Restoration of function. (*a*) Sensation returned in the hands and forearms (later it will be seen in the feet and legs also); (*b*) muscular power became restored in the hands and forearms (later it will be seen in the legs and feet also); (*c*) nails grew (restoration of trophic nerves); (*d*) sebaceous glands in positions occupied by tubercles secreted sebum; and (*e*) patches of pitch-black smooth and glossy beard grew in the position occupied by maculæ on the cheeks.

FIG. 1.



Showing result of treatment in a case of leprosy.

On Oct. 1st sensation was returning in the legs and on the 10th it had completely returned down to the ankles and on the inside to about two inches below the malleoli. There was no sensation in the feet. On the 20th, during the last fortnight the muscles of the legs, especially the calves, had rapidly re-formed. The right calf was practically normal in thickness and was about twice as thick as it was after the œdema had gone down. The result was that the patient could now, after he had been helplessly paralysed for months, get up with the aid of a stick and walk some little distance by supporting himself against the

wall. The palm and the skin of the back of the left hand were now moist and soft. The thenar and hypothenar eminences of the left hand were rapidly re-forming. There was a slight increase in the interossei of the same hand. The thenar eminence of the right hand was increasing. There was just a slight dryness and scaliness of the outer half of the right palm, otherwise the skin of the right hand was normal. The muscles of the forearms had now attained their normal thickness. The muscular power of the forearms and hands was very good. On the 29th the patient for the first time for five months walked a little distance without any assistance or support and was very proud of it.

On Nov. 2nd the patient walked 20 yards without assistance or support. On the 3rd sensation had returned on the inside of each foot as far as the metatarso-phalangeal joint of the big toe. Beyond a slight puckered condition of the skin there was not a trace of tubercle left. The last traces of maculæ were fading away and the beard was growing. The patient's general health, spirits, and appetite were excellent. On the 7th he was photographed and on the 24th he carried a bucket of water to his room.

On Dec. 19th sensation had completely returned in the right foot except in the toes, while it was improving in the left foot. The skin of the feet and toes was much improved. On the 27th sensation in the left foot had completely returned. Both soles were very sensitive. The toes of both feet were still somewhat anæsthetic.

On Jan. 28th, 1899, all the small toes could be freely moved, flexed, and extended (they were completely paralysed at the commencement). The extensor muscles of the big toes were still completely paralysed, so that the big toes dropped. The patient carried a five-gallon paraffin tin full of water and without a handle to his room. On March 3rd sensation had returned in the toes. The skin of the feet and toes was very delicate and thin, but otherwise it was moist, smooth, and normal. The patient had now a complete set of new and normal toe-nails.

On April 1st no trace of disease was left anywhere, except that there was still slight paresis in the extensors of the big toes, the patient being able to raise them about half an inch. The treatment was now stopped and he was kept under observation until the following November, when, by consent of the Free State Government, he was sent to his home. He was seen by five medical friends at various times while under treatment. All Free State lepers were examined and certified by two independent medical men, just as in the case of lunatics, before they were deprived of their liberty.

(To be continued.)

FIVE CASES OF INGUINAL BUBO.

BY G. H. COLT, M.A., M.B. CANTAB.,
LATE HOUSE SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

THE five cases recorded below were admitted into St. Bartholomew's Hospital under the care of Mr. D'Arcy Power, and I am indebted to him for permission to publish them. They are recorded because they are common cases and because the method of treatment in cases of bubo is not as satisfactory as one could wish. It is probable that if it had been possible to admit these patients at once as in-patients to the hospital some of them would have been spared the long illnesses which were their lot. It would have been possible to watch the course of their disease more accurately and to operate if necessary at a time of election rather than be driven to operate by the adverse course of the disease, but it is impossible to admit all such cases as in-patients because of the lack of accommodation.

In the first place it will make the description shorter if the area of infection as a possible cause of inguinal bubo is mapped out. The exact boundaries of any lymphatic area are somewhat indefinite, especially towards the middle line of the body, and the arrangement of the glands and terminal lymphatics is subject to considerable variation, but allowance can be made for this clinically. The superficial inguinal lymphatic glands, as a whole, occupy Scarpa's triangle and include the following three chief sets, named according to their disposition with respect to the saphenous opening.

1. A supero-external or inguinal group situated obliquely, parallel with, and just below Poupart's ligament. There are from four to seven of these glands and when they become enlarged the collective swelling often extends slightly above the level of Poupart's ligament. Their afferent vessels are derived from the superficial lymphatics of the back and outer part of the thigh and buttock, from the superficial lymphatics of the abdominal wall below the level of the umbilicus, except from those of the lower and inner part of this area, which pass to Group 2, and one or two from the front and outer part of the thigh. The efferent vessels pierce the upper and inner portion of the femoral sheath and pass through the crural canal to the deep femoral or external iliac glands.

2. A supero-internal or pubic group of from two to four glands situated near the pubic spine and to the inner side of the internal saphenous vein. Their afferent vessels are derived from the superficial lymphatics of the lower and middle portions of the anterior abdominal wall, from the upper and inner parts of the thigh, from the skin covering the external genital organs, the perineum, and anus. They also receive lymphatics from the lowest part of the rectum, from the membranous and spongy portions of the urethra, and from the glans penis. The efferent vessels pass to Groups 1 and 2 and through the saphenous opening to the deep femoral and external iliac glands.

3. An inferior or femoral set of from three to six glands grouped vertically around the upper end of the internal saphenous vein. Their afferent vessels come from all the superficial lymphatics of the thigh and leg except from a few on the upper and outer aspect of the thigh which pass to Group 2 and one or two which pass to Group 1, except also from the lymphatics on the outer side of the leg behind the fibular region which follow the course of the external saphenous vein to the popliteal glands and drain an area on the outer border of the foot near the heel. There is an excellent demonstration of these superficial lymphatics in a specimen in the Musée au Filat, in Paris, of a mummified lower limb, which shows that this last-mentioned lymphshed is much smaller than is usually depicted in the text-books of anatomy. In the specimen referred to there are only two lymphatics of any size in the area on the outer side of the leg which do not pass across the middle line either on the front or the back of the leg to join the lymphatics along the course of the internal saphenous vein. The efferent lymphatics of Group 3 pass *viâ* the saphenous opening to the deep femoral or external iliac glands.

A fourth group must be mentioned in enumerating the glands in this region. It is named deep femoral and consists of three or four glands situated to the inner side of the common femoral vein and partly in the crural canal. The afferent vessels are derived from the deep lymphatics of the front and outer side of the thigh and knee, from the efferent vessels of the other deep lymphatic glands of the lower limb, from some of the efferent vessels of Groups 1 and 2, and from those of Group 3. The efferent vessels pass through the crural canal to the external iliac glands. In addition some of the deep lymphatics of the lower limb, derived chiefly from the back of the thigh, pass through the glands situated at the great sacro-sciatic foramen to the internal iliac glands and a few reach the same destination *viâ* the obturator foramen.

When therefore in the description of the cases it is stated that no source of infection was found as a cause of the bubo it is because careful search was made over the whole of the area specified without positive result. The slightest sign of uncleanliness, abrasion, inflamed piles, anal ulcer or fissure, balanitis, posthitis, gonorrhœa, and soft sore was very carefully searched for, and in every case except one (Case 5) was found wanting. In this case the connexion is doubtful in point of time. It may be objected that an abrasion or soft sore, if ever present, had healed some time before the patient came to the hospital. All these patients were in the hospital for periods varying from three to six weeks and during this time it was possible to find out how far they could be trusted to give the histories of their diseases honestly and correctly, and it was also possible to check their statements by questioning their relatives and friends. In every case the presence of a soft sore was denied. Most of these patients were of the better class of hospital patients, and they were all people earning a good livelihood. A soft sore is painful, and a patient who is affected is unable to do his work satisfactorily without advice and treatment. It is also taught that a temporary scar is left when the true skin has been involved. In no case did the patient leave his work until he came with the swelling in the groin and in no case was a sign of soft sore detected, though it was looked for carefully. In no case was there any urethral discharge after the urine had been

retained for five hours for the purpose of examination, and in no case was pyuria found when the urine was microscopically examined. There was no history of the symptoms and signs of gonorrhœa in any of the cases and no history of painful micturition. There was nothing in the family history of these patients to indicate tuberculosis, and none of them presented any sign of tuberculous infection. The exciting cause of the swelling therefore remains unsolved in all five cases and should indicate one of two things, either that the investigation of the disease is exceptionally difficult or that the ordinary causes assigned to it are not so common as supposed. Then, again, the patients were admitted consecutively just as they came for treatment, and, though the number of cases is small, one would have expected that not all the swellings present would have been situated on the right side of the body. In Case 5 the patient presented a second swelling on the left side, but apart from this it was always the glands on the right side that were involved. Such a coincidence does not indicate a clear knowledge of the cause of the disease. The chief mass of glands composing these swellings was formed by the glands of Group 1 and these were the first to become enlarged, whereas if the cause had been genital the enlargement should have been noticed first and chiefly in the glands of Group 2. However, the tracing and mapping out of lymphatics has been partly done from clinical rather than from anatomical experience and to apply the last argument would be to argue in a circle. In some cases of bubo occurring in patients on board ship, when there is no possible chance of contagion, often for months at a time, and where the possibility of contagion having occurred is generally freely admitted at once, it is very difficult to discover a source of infection. The cases are as follows:—

CASE 1.—The patient, aged 22 years, was admitted on Dec. 23rd, 1904, and discharged to the convalescent home on Jan. 20th, 1905. He was a pale, thin man, and looked worn and ill when he first came to the hospital on Nov. 24th, 1904, complaining of a painful swelling in the right groin. The swelling had been noticed since Nov. 7th. A complete denial of all suspected causes was given and there was no sign of a possible source of infection over the area mentioned above. The diagnosis made from the clinical characters of the swelling was that of inguinal bubo, and since there were present with the swelling redness, heat, pain, tenderness on pressure with fluctuation at the most prominent part of it nitrous oxide anæsthesia was induced and an oblique incision two inches long was made over the part that yielded fluctuation and about five drachms of pus were evacuated. The relief of the pain was considerable and the patient was instructed to lie in bed at home and have the wound fomented every four hours with boroglyceride, a teaspoonful to a pint of water. He came to the hospital every fourth day for examination and in order to avoid moving the limb he used crutches. On Nov. 30th some enlarged lymphatic glands presented in the wound and were removed, the original incision being enlarged to four inches to improve the drainage. Sections of the glands examined microscopically showed the presence of an excessive amount of fibrous tissue; there was no caseous area and no sign of sarcoma. On Dec. 21st there was a softened area in the subcutaneous tissue on the inner side of the upper part of the right thigh just to the inner side of the ampulla of the internal saphenous vein, and under nitrous oxide anæsthesia an incision was made into the softened tissue. Liquefied fat but no pus was found. Both wounds at this stage were fomented every four hours and showed no sign of healing. On the 23rd there was tenderness along the course of the right internal saphenous vein, and the vein was palpably hardened as far as the inner side of the knee. The patient's temperature was 104° F., the pulse was 96 per minute and of full volume, and the respirations were 24 per minute. He was admitted to the hospital and put to bed, his right lower extremity being slightly elevated and flexed at the hip and knee. The fomentations were continued and gave him great relief. The temperature fell in an irregular manner to 98·4° on the third day after his admission and remained subnormal during the rest of his stay in the hospital. His diet after the first three days was light and nutritious. He took a draught containing quassia and iron three times a day and occasionally an aperient. On Jan. 2nd, 1905, the wounds were dry dressed. On the 5th four ounces of port wine were added to his diet. The wounds, though sluggish, healed on Feb. 11th, the patient being allowed up on Jan. 17th. The change for the better in the patient's general health after his admission to hospital was remarkable. No sign of tubercle was found in the chest on repeated examination. The total duration of his illness from the time the swelling was first noticed until the wound healed was 14 weeks. This patient at the present time, two years after his illness, is in good health. There has been no trouble from the scar which is quite supple and there has been no pain or swelling of the right lower limb.

CASE 2.—The patient, aged 31 years, was admitted on Jan. 28th and discharged to the convalescent home on Feb. 17th, 1905. He was a well-nourished man and came to the out-patient department on Jan. 2nd, 1905, complaining of a painful swelling in the right groin. The swelling had been first noticed the day before. The patient's general condition was good and he had no symptoms or signs of any other disease. Locally there was a tender, irregular swelling, 2 inches by 1½ inches by 1 inch, situated in the right groin. The long axis of the swelling was just below, and parallel to, Poupart's ligament. The upper border of the swelling extended half an inch above the line of Poupart's ligament. No fluctuation could be elicited. There was no sign of infection in the area mentioned before and the patient denied having suffered from any sore or abrasion in this area for a period of two years. There was no history of gonorrhœa. The treatment locally was by fomentations, with instructions to rest in bed, and these instructions were carried out. The swelling increased gradually in size, especially at its lower end, and on Jan. 28th the patient was admitted to the hospital. His temperature was 99° F., his pulse was 80, and his respirations were 20. The urine was natural. The swelling now measured 3 inches by 2 inches by 1½ inches, apparently involved chiefly the glands of Group 3, and was adherent to the skin but yielded no fluctuation. It was tender. Under a general anæsthetic the surrounding skin was shaved and prepared for operation and the mass of glands was dissected out through a vertical incision two and a half inches in length made over the most prominent part of the swelling. The internal saphenous vein was found to be involved in the mass; it was ligatured above and below and the intervening portion was removed with the glands. The wound was closed with silkworm gut except for a small drain and dry dressed. On cutting into the swelling numerous foci of pus were found and a broth culture was taken from one of these. The tube showed no growth on the third day. The mass of glands was of the same consistence throughout and a microscopical examination of a section showed chronic inflammation with foci of necrosis. There were no signs of sarcoma. The wound discharged large quantities of serum through the drainage into the dressings. It mostly healed by first intention and it seemed probable that if the main lymphatic vessels, both afferent and efferent, or as many as could be seen as they joined the glands, had been ligatured the healing of the wound would have been facilitated. The cavity left beneath the skin granulated up from the bottom and the base thus became joined to the skin over it. The place of exit of the drainage finally healed on May 24th. The total duration of the man's illness was nine and a half weeks. This patient at the present time is well. The scar is sound and painless. He has noticed that his right leg swells more than his left when he stands up for long at a time.

CASE 3.—The patient, aged 43 years, was admitted on Jan. 30th and discharged on March 4th, 1905. He first noticed an aching pain in his right groin on Dec. 2nd, 1904, and on examining himself discovered a lump where he felt the pain. On the 19th he came to the surgery. The diagnosis was inguinal bubo and the swelling was fomented. The patient was instructed to rest at home and to continue the fomentations every four hours. There was no history of venereal disease and no source of infection was discovered within the area before specified. On Jan. 7th, 1905, fluctuation could be elicited in the swelling and under nitrous oxide anæsthesia a vertical incision one and a half inches long was made over the most prominent part of it and pus was evacuated. A second incision one inch long was made parallel and to the inner side of the first and drainage was established here as a counter opening. The patient continued at home and fomented the wounds every four hours. Owing to their extremely sluggish appearance and the pain in them and in the leg the man was admitted as an in-patient. At this time (Jan. 30th) the local condition was as follows: There were two parallel vertical incisions in the right groin, the outer one extending upwards over the mid-point of Poupart's ligament and one and a half inches long, the inner one one inch distant from the first and one inch long. The edges of these incisions were thick and not shelving and were dark purple, the purple colour extending into the surrounding skin for half an inch in all directions. Pus was discharged through the incisions and there was some slight thickening apparent beneath them. On the 30th, under general anæsthesia, an elliptical incision was made around the two wounds, giving them a margin of half an inch, and all the skin inclosed by this incision was cut away. The base of the wound left by this proceeding was scraped and the wound was packed with gauze. The ulcer was syringed out with 1 in 4000 biniodide of mercury lotion and dressed once daily. In a week the base of the ulcer was nearly level with the skin and the edges of the skin were shelving and showed a blue line. The ulcer thus became a healing one and healing was complete on March 20th. The patient returned to work on March 4th. The total duration of his illness up to then was 13 weeks. At the present time he is in good health and has had no pain in the scar and no swelling of the right lower extremity.

CASE 4.—The patient, aged 22 years, was admitted on Feb. 28th and discharged to the convalescent home on April 14th, 1905. Six weeks previously to admission he had noticed a swelling in his right groin. The swelling increased gradually in size and on admission there was present in the right groin just below Poupart's ligament an oval mass 1 inch by ¾ inch by ½ inch with its long axis parallel to the ligament. The upper border of the swelling extended just above the line of Poupart's ligament. This mass was connected deeply by a bridge of indurated tissue to a second one situated vertically and measuring 1 inch by ¾ inch by ½ inch, and below the inner end of Poupart's ligament. The swellings were diagnosed as superficial to the deep fascia. On March 1st, under general anæsthesia, a vertical incision three inches long was made over the two swellings, one inch of the incision being above and two inches below Poupart's ligament. The swelling was found to be one connected mass of enlarged lymphatic glands and was densely adherent to the common femoral artery and vein, from which it was removed together with the sheath of these vessels. The operation took one hour. The edges of the skin were brought together with silkworm gut and the cavity was drained and dry dressed. Some of the glands exuded pus as the knife was carried between them and the femoral vessels. The wound after the operation gave considerable pain for 12 hours and the patient's temperature rose from 98·4° to 102° F. The drainage was therefore removed and left out but was re-established owing to the excessive exudation of pus. On April 3rd all the skin sutures were removed and the wound was opened up and lightly filled with gauze. There was slight secondary hæmorrhage from the wound on the 9th while the patient was using a bed-pan, but it was easily controlled with plugging. From this time healing was uninterrupted and it seemed to be helped by swabbing out the wound on every third day with tincture of iodine—a process which was not painful. Healing finally took place on May 22nd. The patient returned to work on May 1st but there was slight œdema of the right lower limb for two months. Sections of the glands examined under the microscope showed chronic inflammation. Cultures of pus from the foci in the glands made in broth were sterile on the third day. The total duration of the illness was 15 weeks. This patient at the present time is in good health. The scar is sound and painless. There has been no more swelling of the right lower limb.

CASE 5.—The patient, aged 42 years, was admitted on March 4th and discharged to the convalescent home on April 28th, 1905. He had been

wall. The palm and the skin of the back of the left hand were now moist and soft. The thenar and hypothenar eminences of the left hand were rapidly re-forming. There was a slight increase in the interossei of the same hand. The thenar eminence of the right hand was increasing. There was just a slight dryness and scaliness of the outer half of the right palm, otherwise the skin of the right hand was normal. The muscles of the forearms had now attained their normal thickness. The muscular power of the forearms and hands was very good. On the 29th the patient for the first time for five months walked a little distance without any assistance or support and was very proud of it.

On Nov. 2nd the patient walked 20 yards without assistance or support. On the 3rd sensation had returned on the inside of each foot as far as the metatarso-phalangeal joint of the big toe. Beyond a slight puckered condition of the skin there was not a trace of tubercle left. The last traces of maculæ were fading away and the beard was growing. The patient's general health, spirits, and appetite were excellent. On the 7th he was photographed and on the 24th he carried a bucket of water to his room.

On Dec. 19th sensation had completely returned in the right foot except in the toes, while it was improving in the left foot. The skin of the feet and toes was much improved. On the 27th sensation in the left foot had completely returned. Both soles were very sensitive. The toes of both feet were still somewhat anæsthetic.

On Jan. 28th, 1899, all the small toes could be freely moved, flexed, and extended (they were completely paralysed at the commencement). The extensor muscles of the big toes were still completely paralysed, so that the big toes dropped. The patient carried a five-gallon paraffin tin full of water and without a handle to his room. On March 3rd sensation had returned in the toes. The skin of the feet and toes was very delicate and thin, but otherwise it was moist, smooth, and normal. The patient had now a complete set of new and normal toe-nails.

On April 1st no trace of disease was left anywhere, except that there was still slight paresis in the extensors of the big toes, the patient being able to raise them about half an inch. The treatment was now stopped and he was kept under observation until the following November, when, by consent of the Free State Government, he was sent to his home. He was seen by five medical friends at various times while under treatment. All Free State lepers were examined and certified by two independent medical men, just as in the case of lunatics, before they were deprived of their liberty.

(To be continued.)

FIVE CASES OF INGUINAL BUBO.

BY G. H. COLT, M.A., M.B. CANTAB.,
LATE HOUSE SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

THE five cases recorded below were admitted into St. Bartholomew's Hospital under the care of Mr. D'Arcy Power, and I am indebted to him for permission to publish them. They are recorded because they are common cases and because the method of treatment in cases of bubo is not as satisfactory as one could wish. It is probable that if it had been possible to admit these patients at once as in-patients to the hospital some of them would have been spared the long illnesses which were their lot. It would have been possible to watch the course of their disease more accurately and to operate if necessary at a time of election rather than be driven to operate by the adverse course of the disease, but it is impossible to admit all such cases as in-patients because of the lack of accommodation.

In the first place it will make the description shorter if the area of infection as a possible cause of inguinal bubo is mapped out. The exact boundaries of any lymphatic area are somewhat indefinite, especially towards the middle line of the body, and the arrangement of the glands and terminal lymphatics is subject to considerable variation, but allowance can be made for this clinically. The superficial inguinal lymphatic glands, as a whole, occupy Scarpa's triangle and include the following three chief sets, named according to their disposition with respect to the saphenous opening.

1. A supero-external or inguinal group situated obliquely, parallel with, and just below Poupart's ligament. There are from four to seven of these glands and when they become enlarged the collective swelling often extends slightly above the level of Poupart's ligament. Their afferent vessels are derived from the superficial lymphatics of the back and outer part of the thigh and buttock, from the superficial lymphatics of the abdominal wall below the level of the umbilicus, except from those of the lower and inner part of this area, which pass to Group 2, and one or two from the front and outer part of the thigh. The efferent vessels pierce the upper and inner portion of the femoral sheath and pass through the crural canal to the deep femoral or external iliac glands.

2. A supero-internal or pubic group of from two to four glands situated near the pubic spine and to the inner side of the internal saphenous vein. Their afferent vessels are derived from the superficial lymphatics of the lower and middle portions of the anterior abdominal wall, from the upper and inner parts of the thigh, from the skin covering the external genital organs, the perineum, and anus. They also receive lymphatics from the lowest part of the rectum, from the membranous and spongy portions of the urethra, and from the glans penis. The efferent vessels pass to Groups 1 and 2 and through the saphenous opening to the deep femoral and external iliac glands.

3. An inferior or femoral set of from three to six glands grouped vertically around the upper end of the internal saphenous vein. Their afferent vessels come from all the superficial lymphatics of the thigh and leg except from a few on the upper and outer aspect of the thigh which pass to Group 2 and one or two which pass to Group 1, except also from the lymphatics on the outer side of the leg behind the fibular region which follow the course of the external saphenous vein to the popliteal glands and drain an area on the outer border of the foot near the heel. There is an excellent demonstration of these superficial lymphatics in a specimen in the Musée au Filat, in Paris, of a mummified lower limb, which shows that this last-mentioned lymphshed is much smaller than is usually depicted in the textbooks of anatomy. In the specimen referred to there are only two lymphatics of any size in the area on the outer side of the leg which do not pass across the middle line either on the front or the back of the leg to join the lymphatics along the course of the internal saphenous vein. The efferent lymphatics of Group 3 pass *vid* the saphenous opening to the deep femoral or external iliac glands.

A fourth group must be mentioned in enumerating the glands in this region. It is named deep femoral and consists of three or four glands situated to the inner side of the common femoral vein and partly in the crural canal. The afferent vessels are derived from the deep lymphatics of the front and outer side of the thigh and knee, from the efferent vessels of the other deep lymphatic glands of the lower limb, from some of the efferent vessels of Groups 1 and 2, and from those of Group 3. The efferent vessels pass through the crural canal to the external iliac glands. In addition some of the deep lymphatics of the lower limb, derived chiefly from the back of the thigh, pass through the glands situated at the great sacro-sciatic foramen to the internal iliac glands and a few reach the same destination *vid* the obturator foramen.

When therefore in the description of the cases it is stated that no source of infection was found as a cause of the bubo it is because careful search was made over the whole of the area specified without positive result. The slightest sign of uncleanliness, abrasion, inflamed piles, anal ulcer or fissure, balanitis, posthitis, gonorrhœa, and soft sore was very carefully searched for, and in every case except one (Case 5) was found wanting. In this case the connexion is doubtful in point of time. It may be objected that an abrasion or soft sore, if ever present, had healed some time before the patient came to the hospital. All these patients were in the hospital for periods varying from three to six weeks and during this time it was possible to find out how far they could be trusted to give the histories of their diseases honestly and correctly, and it was also possible to check their statements by questioning their relatives and friends. In every case the presence of a soft sore was denied. Most of these patients were of the better class of hospital patients, and they were all people earning a good livelihood. A soft sore is painful, and a patient who is affected is unable to do his work satisfactorily without advice and treatment. It is also taught that a temporary scar is left when the true skin has been involved. In no case did the patient leave his work until he came with the swelling in the groin and in no case was a sign of soft sore detected, though it was looked for carefully. In no case was there any urethral discharge after the urine had been

retained for five hours for the purpose of examination, and in no case was pyuria found when the urine was microscopically examined. There was no history of the symptoms and signs of gonorrhœa in any of the cases and no history of painful micturition. There was nothing in the family history of these patients to indicate tuberculosis, and none of them presented any sign of tuberculous infection. The exciting cause of the swelling therefore remains unsolved in all five cases and should indicate one of two things, either that the investigation of the disease is exceptionally difficult or that the ordinary causes assigned to it are not so common as supposed. Then, again, the patients were admitted consecutively just as they came for treatment, and, though the number of cases is small, one would have expected that not all the swellings present would have been situated on the right side of the body. In Case 5 the patient presented a second swelling on the left side, but apart from this it was always the glands on the right side that were involved. Such a coincidence does not indicate a clear knowledge of the cause of the disease. The chief mass of glands composing these swellings was formed by the glands of Group 1 and these were the first to become enlarged, whereas if the cause had been genital the enlargement should have been noticed first and chiefly in the glands of Group 2. However, the tracing and mapping out of lymphatics has been partly done from clinical rather than from anatomical experience and to apply the last argument would be to argue in a circle. In some cases of bubo occurring in patients on board ship, when there is no possible chance of contagion, often for months at a time, and where the possibility of contagion having occurred is generally freely admitted at once, it is very difficult to discover a source of infection. The cases are as follows:—

CASE 1.—The patient, aged 22 years, was admitted on Dec. 23rd, 1904, and discharged to the convalescent home on Jan. 20th, 1905. He was a pale, thin man, and looked worn and ill when he first came to the hospital on Nov. 24th, 1904, complaining of a painful swelling in the right groin. The swelling had been noticed since Nov. 7th. A complete denial of all suspected causes was given and there was no sign of a possible source of infection over the area mentioned above. The diagnosis made from the clinical characters of the swelling was that of inguinal bubo, and since there were present with the swelling redness, heat, pain, tenderness on pressure with fluctuation at the most prominent part of it nitrous oxide anæsthesia was induced and an oblique incision two inches long was made over the part that yielded fluctuation and about five drachms of pus were evacuated. The relief of the pain was considerable and the patient was instructed to lie in bed at home and have the wound fomented every four hours with boroglyceride, a teaspoonful to a pint of water. He came to the hospital every fourth day for examination and in order to avoid moving the limb he used crutches. On Nov. 30th some enlarged lymphatic glands presented in the wound and were removed, the original incision being enlarged to four inches to improve the drainage. Sections of the glands examined microscopically showed the presence of an excessive amount of fibrous tissue; there was no caseous area and no sign of sarcoma. On Dec. 21st there was a softened area in the subcutaneous tissue on the inner side of the upper part of the right thigh just to the inner side of the ampulla of the internal saphenous vein, and under nitrous oxide anæsthesia an incision was made into the softened tissue. Liquefied fat but no pus was found. Both wounds at this stage were fomented every four hours and showed no sign of healing. On the 23rd there was tenderness along the course of the right internal saphenous vein, and the vein was palpably hardened as far as the inner side of the knee. The patient's temperature was 104° F., the pulse was 96 per minute and of full volume, and the respirations were 24 per minute. He was admitted to the hospital and put to bed, his right lower extremity being slightly elevated and flexed at the hip and knee. The fomentations were continued and gave him great relief. The temperature fell in an irregular manner to 98·4° on the third day after his admission and remained subnormal during the rest of his stay in the hospital. His diet after the first three days was light and nutritious. He took a draught containing quassia and iron three times a day and occasionally an aperient. On Jan. 2nd, 1905, the wounds were dry dressed. On the 5th four ounces of port wine were added to his diet. The wounds, though sluggish, healed on Feb. 11th, the patient being allowed up on Jan. 17th. The change for the better in the patient's general health after his admission to hospital was remarkable. No sign of tubercle was found in the chest on repeated examination. The total duration of his illness from the time the swelling was first noticed until the wound healed was 14 weeks. This patient at the present time, two years after his illness, is in good health. There has been no trouble from the scar which is quite supple and there has been no pain or swelling of the right lower limb.

CASE 2.—The patient, aged 31 years, was admitted on Jan. 28th and discharged to the convalescent home on Feb. 17th, 1905. He was a well-nourished man and came to the out-patient department on Jan. 2nd, 1905, complaining of a painful swelling in the right groin. The swelling had been first noticed the day before. The patient's general condition was good and he had no symptoms or signs of any other disease. Locally there was a tender, irregular swelling, 2 inches by 1½ inches by 1 inch, situated in the right groin. The long axis of the swelling was just below, and parallel to, Poupart's ligament. The upper border of the swelling extended half an inch above the line of Poupart's ligament. No fluctuation could be elicited. There was no sign of infection in the area mentioned before and the patient denied having suffered from any sore or abrasion in this area for a period of two years. There was no history of gonorrhœa. The treatment locally was by fomentations, with instructions to rest in bed, and these instructions were carried out. The swelling increased gradually in size, especially at its lower end, and on Jan. 28th the patient was admitted to the hospital. His temperature was 99° F., his pulse was 80, and his respirations were 20. The urine was natural. The swelling now measured 3 inches by 2 inches by 1½ inches, apparently involved chiefly the glands of Group 3, and was adherent to the skin but yielded no fluctuation. It was tender. Under a general anæsthetic the surrounding skin was shaved and prepared for operation and the mass of glands was dissected out through a vertical incision two and a half inches in length made over the most prominent part of the swelling. The internal saphenous vein was found to be involved in the mass; it was ligatured above and below and the intervening portion was removed with the glands. The wound was closed with silkworm gut except for a small drain and dry dressed. On cutting into the swelling numerous foci of pus were found and a broth culture was taken from one of these. The tube showed no growth on the third day. The mass of glands was of the same consistence throughout and a microscopical examination of a section showed chronic inflammation with foci of necrosis. There were no signs of sarcoma. The wound discharged large quantities of serum through the drainage into the dressings. It mostly healed by first intention and it seemed probable that if the main lymphatic vessels, both afferent and efferent, or as many as could be seen as they joined the glands, had been ligatured the healing of the wound would have been facilitated. The cavity left beneath the skin granulated up from the bottom and the base thus became joined to the skin over it. The place of exit of the drainage finally healed on May 24th. The total duration of the man's illness was nine and a half weeks. This patient at the present time is well. The scar is sound and painless. He has noticed that his right leg swells more than his left when he stands up for long at a time.

CASE 3.—The patient, aged 43 years, was admitted on Jan. 30th and discharged on March 4th, 1905. He first noticed an aching pain in his right groin on Dec. 2nd, 1904, and on examining himself discovered a lump where he felt the pain. On the 19th he came to the surgery. The diagnosis was inguinal bubo and the swelling was fomented. The patient was instructed to rest at home and to continue the fomentations every four hours. There was no history of venereal disease and no source of infection was discovered within the area before specified. On Jan. 7th, 1905, fluctuation could be elicited in the swelling and under nitrous oxide anæsthesia a vertical incision one and a half inches long was made over the most prominent part of it and pus was evacuated. A second incision one inch long was made parallel and to the inner side of the first and drainage was established here as a counter opening. The patient continued at home and fomented the wounds every four hours. Owing to their extremely sluggish appearance and the pain in them and in the leg the man was admitted as an in-patient. At this time (Jan. 30th) the local condition was as follows: There were two parallel vertical incisions in the right groin, the outer one extending upwards over the mid-point of Poupart's ligament and one and a half inches long, the inner one one inch distant from the first and one inch long. The edges of these incisions were thick and not shelving and were dark purple, the purple colour extending into the surrounding skin for half an inch in all directions. Pus was discharged through the incisions and there was some slight thickening apparent beneath them. On the 30th, under general anæsthesia, an elliptical incision was made around the two wounds, giving them a margin of half an inch, and all the skin inclosed by this incision was cut away. The base of the wound left by this proceeding was scraped and the wound was packed with gauze. The ulcer was syringed out with 1 in 4000 biniodide of mercury lotion and dressed once daily. In a week the base of the ulcer was nearly level with the skin and the edges of the skin were shelving and showed a blue line. The ulcer thus became a healing one and healing was complete on March 20th. The patient returned to work on March 4th. The total duration of his illness up to then was 13 weeks. At the present time he is in good health and has had no pain in the scar and no swelling of the right lower extremity.

CASE 4.—The patient, aged 22 years, was admitted on Feb. 28th and discharged to the convalescent home on April 14th, 1905. Six weeks previously to admission he had noticed a swelling in his right groin. The swelling increased gradually in size and on admission there was present in the right groin just below Poupart's ligament an oval mass 1 inch by ¾ inch by ½ inch with its long axis parallel to the ligament. The upper border of the swelling extended just above the line of Poupart's ligament. This mass was connected deeply by a bridge of indurated tissue to a second one situated vertically and measuring 1 inch by ¾ inch by ½ inch, and below the inner end of Poupart's ligament. The swellings were diagnosed as superficial to the deep fascia. On March 1st, under general anæsthesia, a vertical incision three inches long was made over the two swellings, one inch of the incision being above and two inches below Poupart's ligament. The swelling was found to be one connected mass of enlarged lymphatic glands and was densely adherent to the common femoral artery and vein, from which it was removed together with the sheath of these vessels. The operation took one hour. The edges of the skin were brought together with silkworm gut and the cavity was drained and dry dressed. Some of the glands exuded pus as the knife was carried between them and the femoral vessels. The wound after the operation gave considerable pain for 12 hours and the patient's temperature rose from 98·4° to 102° F. The drainage was therefore removed and left out but was re-established owing to the excessive exudation of pus. On April 3rd all the skin sutures were removed and the wound was opened up and lightly filled with gauze. There was slight secondary hæmorrhage from the wound on the 9th while the patient was using a bed-pan, but it was easily controlled with plugging. From this time healing was uninterrupted and it seemed to be helped by swabbing out the wound on every third day with tincture of iodine—a process which was not painful. Healing finally took place on May 22nd. The patient returned to work on May 1st but there was slight œdema of the right lower limb for two months. Sections of the glands examined under the microscope showed chronic inflammation. Cultures of pus from the foci in the glands made in broth were sterile on the third day. The total duration of the illness was 15 weeks. This patient at the present time is in good health. The scar is sound and painless. There has been no more swelling of the right lower limb.

CASE 5.—The patient, aged 42 years, was admitted on March 4th and discharged to the convalescent home on Apri 23th, 1905. He had been

quite well until Feb. 1st, 1905, when he first noticed a swelling in the right groin. He said that he had been treated for hernia from Feb. 10th to the 23th and during this time some external piles had been removed. There was no history of previous illness, gonorrhœa, or syphilis, and none of sores on the area mentioned before. On admission there was present in the right groin a swelling with its long axis parallel to and one inch below Poupart's ligament and measuring 4 inches by 2 inches by 1½ inches, adherent to the skin which was red and through which fluctuation could be elicited. The upper margin of the swelling extended one and a half inches above the line of Poupart's ligament. There were three palpably enlarged glands in the left groin. The only sign of a possible previous infection was the presence of a small healthy scar situated at the right hand margin of the anus and also the presence of three external piles. The skin between these was healthy and clean. A rectal examination revealed one internal pile and no pain was caused during this examination and none was complained of during or after defæcation. The urine was natural. The temperature was 99° F., the pulse was 82, and the respirations were 20. On March 6th, under general anæsthesia, the skin having been prepared, an elliptical incision was made through the skin around the long axis of the swelling and the inguinal lymphatic glands were removed *en masse*. A quantity of pus also escaped. The incision was closed with silkworm-gut sutures and the cavity was drained in an upward and outward direction and dry dressed. The wound healed by first intention at either end but not at the central part. Healing finally took place on May 14th, 1905. The enlarged glands on the left side subsided without local treatment. The total duration of the illness was 15 weeks. This patient at the present time is in good health. The scar is supple, sound, and painless. There has been no swelling of the right lower limb.

The question that naturally arises from a study of these cases relates to the best method of treatment. It seems that in the case of a patient who is able to get about and go to work the disease does not, as a rule, clear up of its own accord. In such case the disease progresses, pus forms, the pain is great, and by reason of it the patient becomes worn and ill. The abscess is opened and usually healing is slow. These cavities show more periadenitis than adenitis and the glands exposed come out of the wound whole. The edges of the ulcers are thick, they are not level with the base, which is deep, and the surrounding skin is purple. They thus present a sluggish and not a healing appearance. There is some danger of complications later, such as thrombosis of the internal saphenous vein (Case 1), and secondary hæmorrhage (Case 4), and it is possible that the latter might, from the situation of the ulcer, prove exceedingly dangerous to life. In any case when, apart from complications, the disease runs this course the patient is in for a long illness and it greatly facilitates a proper understanding between him and the surgeon if this is explained at the outset. The patient then makes the necessary arrangements and makes up his mind to a long illness and there is no further trouble. On the other hand, when in the early stage the patient is put to bed and any apparent source of infection is treated, the disease may clear up, as in the case of the swelling on the left side in Case 5. It seems reasonable to regard this second swelling as similar in nature to that on the right side. It is said that the exercise of continuous uniform pressure on the swelling aids resolution. It was not tried in the case of these patients because during the early stages they were out-patients. The pressure of a truss is certainly most irritating and pus forms quickly. Absence of movement at the hip-joint seems to be the chief aid to resolution and a rational course to pursue is to put the patient to bed lying on his back with his hip- and knee-joints on the affected side slightly flexed by means of a pillow placed under the knee, to give him a light nutritious diet, to attend to his general health according to the indications, and to measure and record the size of the swelling. The change in size in these swellings is a gradual one, and although the general course can be gauged by palpation it is more certain to outline the mass and measure it and then to repeat the observation some three days later. Moreover, much handling impedes the process of resolution. When once it is clear that the swelling is increasing and not diminishing in size, or when the case does not come under observation until the stage of commencing softening, probably the best thing to do is to dissect out the mass of glands whole, paying attention to the following points, which are emphasised because the operation is a useful one and is not described in books on operative surgery.

The patient is prepared for the anæsthetic and his skin is shaved and prepared as for any operation. The patient lies on his back and is anæsthetised. The thigh on the affected side is extended and an elliptical incision as long as the long axis of the mass to be removed is made over the swelling, care being taken to include in the area of the ellipse rather more than less of the skin over the most prominent part of the swelling. This is advisable for two reasons. In the first place there is often pus beneath where none is previously suspected and the skin is already infected at its most prominent part. In the second place the removal is going to be free and wide of the glands and there is usually left an ample supply of skin to cover in the wound. When the vertical set of superficial femoral glands is enlarged the incisions are best planned so that their upper and outer ends meet at a point half an inch above the junction of the outer and middle thirds of Poupart's ligament, while their lower and inner ends meet an inch below and an inch to the outer side of the pubic spine. As already mentioned, the outer part of the swelling may extend above the line of the ligament. The long axis of the inclosed ellipse is situated obliquely. These incisions give a very good exposure of all the glands involved and allow drainage in an upward and outward direction, while should pus collect in the lower end the removal of the lowermost stitches allows free drainage. Every case has to taken on its merits, but the incisions described answer very well for the majority of the cases. The incision having been planned and made, the flaps are dissected back and the glands are removed in one piece so as to have as large a margin of healthy tissue as possible and thus avoid infecting the wound; the possibility of the disease being sarcoma has also to be considered. This dissection is a tedious one and takes one hour to perform. On the inner side the exit of the spermatic cord from the superficial abdominal ring comes into view and the glands often have to be separated from the cord. In the middle line of the limb below Poupart's ligament the common femoral artery and to its inner side the vein are in danger of injury. The glands are usually densely adherent to the femoral sheath, and even when the sheath is removed with them it is impossible to avoid letting out pus, as indeed occurred at this stage in Case 4, although the glands were relatively small. The continuation of the sheath over the crural canal is carefully preserved intact and left *in situ*. The upper end of the internal saphenous vein is ligatured at this stage, clamped, and divided between ligature and clamp. It is usually easier to tie the vein again an inch and a half lower down and to remove the intervening portion with the mass of glands, and this is most conveniently done from above downwards. The lymphatic vessels passing to and from the glands are readily seen in a case taken in hand early. They are clamped seriatim and tied off and divided between the ligature and the clamp which is left in place, both to prevent infection and to aid the removal of the mass. Catgut is used throughout for the ligatures. A vulsellum forceps should not be used to make traction on the glands, for the liability of infecting the wound from a punctured gland is very great. The glands are generally friable and become torn if much traction is made by means of pressure forceps. Judging from the fact that the saphenous opening and crural canal are the situation through which practically the whole lymph stream passes out from the lower limb the glands here should be disturbed as little as is consistent with the removal of the offending mass. Especially should care be taken not to cut off the lymphatic path at the lower end of the superficial femoral glands and between them and the deep set which in part lie in the crural canal. The crural canal if possible is left undisturbed, though the glands here ought to be removed if it is judged at the time that they are diseased. The necessity for this was probably the cause of the œdema of the right lower extremity which followed in Case 4 and lasted for two months and of the intermittent œdema in Case 2. In a case taken in hand early and treated on the lines here given such a necessity would be avoided and the chance of a copious serous exudate from the wound would also at the same time be greatly diminished. The removal of the glands having been accomplished all bleeding points are ligatured, the wound is thoroughly swabbed out with iodoform emulsion—for iodoform has been found of benefit in such cases—a gauze drain is inserted in the upper angle of the wound where the risk of sepsis is least, and the skin is brought together with silkworm-gut sutures. The line of sutures is generally found to lie below Poupart's ligament. The formation of pus in such a case is more copious when air is admitted and it might therefore be better to dress such a wound with sterilised silver foil in the usual way, placing the gauze and wool over this. A firm pad of the wool is advisable because the cavity left by removal of the glands is relatively large, but the pressure on the skin should be quite even. A spica bandage is applied, one turn being taken around the opposite thigh, and the patient is put back to bed.

After-treatment.—When the discharge is slight, as it is

when these precautions are taken, the gauze drain is left for 36 hours. At the end of that time the dressing is slightly raised at the upper end and the gauze drain is drawn out. The dressings are quickly replaced and the bandage is firmly re-applied. The skin sutures are removed on the ninth or tenth day and the patient gets up about the fourteenth. When the discharge of serum is copious the wound is dressed more frequently and every effort is made to do this anaerobically. The layer of gauze next the foil is not removed. Should the case have been operated on relatively late in the disease the probability is that the edges of the wound will not heal and that the wound will discharge pus in considerable quantity. The quickest way then is to open it right up and lightly fill it daily with iodoform gauze. In one such case (Case 4) swabbing with tincture of iodine seemed to aid the process of healing and was not painful, but it is difficult to be sure whether the healing was actually more rapid in consequence of the use of iodine.

The advantage of the method outlined above is that in the great number of cases valuable time is saved to the patient. It is probable that his illness will be one of a month or less instead of lasting three months or more. Case 3 is a good instance. In a hospital case also the saving of money would be considerable. These patients are greatly relieved in their minds when the swelling has been removed. They often think it is a rupture of some kind, and have been seen wearing trusses to press on the swelling. Although the whole question is difficult of solution and each case has to be taken on its merits the general impression left by a study of the five cases recorded here is that the best line of treatment to adopt in an average case is that which has just been outlined.

St. Bartholomew's Hospital, E.C.

THE TREATMENT OF PROSTATIC CONGESTION BY ELECTRICAL METHODS.[1]

BY JOSEPH S. BOLTON, M.D. EDIN., M.R.C.S. ENG.

THE functions of the prostate have not been fully worked out and the causes of its enlargement are but imperfectly understood. That the prostate belongs to the generative rather than to the urinary tract is evident from its embryology and comparative anatomy. Prostatic fluid is probably useful chiefly as an accessory and diluent of the secretion from the testicle. Testicular secretion is alkaline. Prostatic secretion is acid and may therefore be required for neutralisation. Removal of the seminal vesicles and prostate from white rats does not diminish the sexual passion but prevents entirely the fertilisation of the ova. In boyhood the prostate is chiefly muscular. At puberty glandular tissue develops. As old age advances some enlargement is very usual. John Hunter showed by experiment that castration of young animals prevented the development of the prostate and that in adult animals castration caused the prostate to atrophy and waste away. In certain animals, as the mole, the prostate enlarges during the rutting season of the year and shrinks again when this is past. Dogs are very subject to hypertrophy of the prostate and castration has often proved a satisfactory remedy. These facts led Dr. J. William White in 1893 to advocate castration of old men who were suffering from enlarged prostate. This operation, though occasionally successful, never became general. It was disliked by the patients and it was by no means devoid of danger.

Recent investigations with the x rays have shown that this agent has a remarkable effect upon the sexual apparatus, the spermatozoa being destroyed or rendered functionless by its action. It is natural, therefore, to ask the question—Will the x rays by their effect upon the testicles produce any amelioration of the condition of a patient suffering from enlarged prostate? Will the x rays produce an effect similar to castration, without any mutilation of the body or danger to the individual? Before this effect of the x rays upon the testicles had been demonstrated Dr. Moszkowicz of Vienna had been investigating the effects of the direct action of the x rays upon the prostate. He exposed the prostate through a cylindrical rectal speculum, the anus and adjoining parts being protected by a leaden mask. Three applications of 15 minutes' duration on alternate days were given. The size of the prostate was much diminished and the patients were able to micturate without instrumental aid. Dr. Carabelli treated two patients by the x rays without any rectal tube and with equally good result. But he also protected the surrounding parts with a leaden mask. This protection is unnecessary and also unwise. For the effect of the x rays upon the testicles would certainly tend to increase the beneficial effect.

There are, however, other electrical methods which have been used with advantage in the treatment of enlarged and congested prostate. But before considering these it will be well to remind ourselves of the conditions with which we have to deal, and so far as we may their causes. The conditions are: (1) enlargement of the prostate; (2) congestion of the prostate; and (3) atony of the muscles of the bladder.

It is now generally recognised that enlargement of the prostate takes place in late middle life, but that this enlargement causes no symptoms for some years, not, indeed, until through advanced age the muscular fibre of the bladder loses its tone. Even then but little is noticed to attract attention till some irritant sets up congestion of the prostate, when any accidental overfilling of the bladder may bring about acute retention.

The causes of congestion of the prostate are numerous, coming as they do from the three systems with which it is so intimately connected—the alimentary, the urinary, and the sexual systems. There is a close relationship between piles and congested prostate, and both are frequently attributed to a chill. But the usual cause of congestion is undoubtedly an irritable condition of the urine owing to decomposition through detention behind an enlarged prostate. But sexual irritation must not be forgotten. A man who had no trouble till he reached the age of 75 years attributed his symptoms to the death of his wife which had occurred some months previously and his consequent failure to obtain sexual relief.

A patient presenting himself for treatment for prostatic trouble is usually found to be suffering from piles and congestion of all the parts about the anus. The large submucous veins of the prostatic urethra are engorged with blood and the prostate is like a sponge distended with fluid. The weakened bladder is unable to force the urine through the blocked urethra. The indications for treatment are the relief of local stasis and restoration of the circulation and the improvement in tone of the muscular fibres of the bladder. These indications are met by electrical applications. As electricity will relieve, and in many cases cure, chronic piles, so will it relieve prostatic congestion. Dr. Benham Snow of New York has had considerable experience in treating these cases by static electricity. He affirms that "in electricity we have a certain relief for all cases except those in which a malignant or tubercular process is present, or cases in which there is fluctuation from the presence of pus. The degree of success of the treatment depends upon the amount of hyperplasia or degeneration that has taken place in the structure of the gland. In the early stages of the affection a complete cure is uniform."

I have only two cases of my own to report but they tend to confirm the above conclusions. They were treated with high-frequency currents.

In April, 1906, I was called in by a man, aged 60 years, who was suffering from retention of urine. He had been troubled with enlarged prostate for two years and on several occasions had been obliged to be relieved by the catheter. I drew off his urine, which I found turbid and gritty but free from albumin. He benefited somewhat under urotropine and became able to pass his urine again. But the urine remained unhealthy and there were much scalding and irritation in passing it. The prostate was moderately enlarged and there was much congestion about the anus. He had very little comfort day or night owing to frequent calls to micturate. In May I decided to try the effect of electrical treatment upon him. I passed an electrode into his rectum and by means of the high-frequency current apparatus I electrified him for about ten minutes. This I repeated three times a week. At the early sittings I used a metal electrode but later I used a glass vacuum electrode. Within three weeks a great improvement was manifest, so that on June 15th I note, "he rises only once or twice in the night to pass water, and seldom has any discomfort." Still the urine continued turbid and gritty. On July 6th my note records: "Urine clear and acid." The treatment was interrupted at the end of July for three weeks, but as the symptoms showed some tendency to return it was resumed

[1] The physiology and pathology of this article are taken from an excellent work by Dr. Deaver of Philadelphia on Enlargement of the Prostate.

and continued for several weeks longer. The result may almost be described as a symptomatic cure, for though his prostate is still large all his urgent symptoms have gone. He enjoys good health, performs his daily work in comfort, sleeps well at night, but still rises once at least to pass urine. Also there is occasionally a little delay in starting the stream of water.

The other case that I have to report is of quite a different type. The patient's present age is only 54 years and he has been troubled with his prostate for ten years. His profession, that of a minister of the Gospel, subjects him to considerable nervous exhaustion. It was on a Sunday night after preaching that he first became aware of something wrong. He spent a restless night, having to rise frequently to pass urine, which was of a cloudy character. This experience was repeated on many occasions, but it caused him little trouble for several years. About three years ago he went out as a missionary to the West Indies. For the first two years of his sojourn there he was remarkably well, but after this he began to suffer from prostatic cystitis and became so ill that he was obliged to return home. Indeed, his medical attendant sent him home for operation. When he came under my care he was thoroughly broken down in health and looked a perfect wreck, many years older than his actual age. He had almost constant trouble with his bladder, and the slightest nervous strain was sufficient to bring on an acute attack. He would first pass a quantity of clear urine, at frequent intervals; then the urine would become turbid, smaller in quantity, and cause scalding, and this would continue till he was completely worn out. I found on examination that his prostate was somewhat enlarged, hard below, softening gradually off higher up, and somewhat too sensitive to the finger in the rectum. He had piles, both internal and external, and a congested condition of the neighbouring parts. I passed a sound but failed to detect any stone. The passage of the instrument through the prostate caused great pain. Before coming under my care he had been taking urotropine and a buchu mixture. I advised him to try the effect of high-frequency currents. To this he agreed, and I commenced to treat him at the end of September of last year. The improvement in this case was most remarkable. He obtained relief after the first few sittings. His bladder symptoms began to yield at once and soon passed completely away. In a few weeks he showed signs of new life and vigour. He lost the haggard look and his whole aspect was completely changed. Early in December he was able to return to the West Indies.

The editor of *Advanced Therapeutics* in commenting upon this treatment says: "The employment of high potential electricity and mechanical vibration in the treatment of prostatitis will revolutionise the management of this unfortunate condition. The most rational treatment of this affection now is the employment of static currents, applied by placing a metal or glass electrode, either posteriorly in contact with the gland or by the employment of one through the urethra."

We in England are, perhaps, less sanguine than the Americans, but we have good reason to believe that this treatment—which is quite painless and not unpleasant in application and causes no shock, so that it can be borne by the aged and the feeble—will bring relief to many an old man whose life has become a miserable existence but who has not the strength or the courage to undergo a serious operation.

Nottingham.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

ROENTGEN RAYS IN THE TREATMENT OF ULCERATIVE BLEPHARITIS.

BY T. L. BUNTING, M.D. EDIN., F.R.S. EDIN.

Schiff and Freund some time ago reported some cases of blepharitis treated by Roentgen rays; since then little seems to have been recorded as to the action of the rays in this condition. The following notes on a very old-standing case may therefore be useful.

A man, aged 25 years, had an attack of measles 16 years ago. This was immediately followed by the blepharitis, which attacked both eyes. The trouble had gradually got worse and he had had frequent attacks of conjunctivitis and keratitis in both eyes. He had been under treatment many times in the course of the disease, and for the last 18 months before coming to me he had been constantly treated at the Newcastle Eye Infirmary. Mr. A. W. Messer, assistant surgeon to the infirmary, who sent the case to me, informs me that all ordinary methods of treatment had been tried without benefit. The patient came to me on July 6th, 1906. The whole of the four lid margins were then involved, and the ulcerative process covered also both the inner and outer surfaces of both lower lids. The lids were all much swollen and they sometimes bled on being touched. There were no eye-lashes and no scabs, but a constant watery discharge. Conjunctivitis and keratitis were present in both eyes and there was some ulceration of the left cornea. There was constant and often severe pain.

During treatment the eyes were kept closed to protect the conjunctivæ from the rays, and the healthy skin was covered by a lead shield with a horizontal slit just large enough to expose the diseased surfaces. The tubes used varied in spark gap from 3½ to 5 inches and gave rays of 3—7 Benoist. Exposures of from eight to ten minutes were given about every five days, each eye being treated separately. After two exposures the pain disappeared and never returned. Epithelium began to form on the right lids after seven, and on the left after nine, exposures, and the margins and outer surfaces then healed very rapidly. In subsequent treatment I drew down the lower lids with sticking-plaster so as to expose their inner surfaces, of which the greater part healed as rapidly as the outer surfaces. But I have been unable to obtain healing of a narrow strip in the depth of the recess where the lids meet the eyeball. In spite of all that one can do by everting the lids the rays can only fall on this strip obliquely, and it seems impossible to give a sufficient dose to it without giving so much as to harm the surrounding parts. The patient has now had 24 exposures to each eye, of which the later ones have been devoted to the attempt to heal this narrow strip.

For all practical purposes the patient is now cured. The external appearance is quite normal except for the absence of lashes. There is no pain and the inflammation of the conjunctiva and cornea has disappeared, so that the patient, who has had to spend the greater part of each previous winter indoors with his eyes shaded, has this winter gone about freely.

Newcastle-on-Tyne.

A CASE OF TURPENTINE POISONING

BY GUY H. COLTART, M.B. LOND., M.R.C.S. ENG., L.R.C.P. LOND.

AT this season of "spring cleaning" the following case may be of interest:—

A girl, aged eight years, after having been exposed to the fumes from newly painted woodwork for nearly a fortnight, was seized on March 10th last with headache, vomiting, and swelling of the left tonsil, causing pain and difficulty in swallowing. There was also pyrexia, her evening temperature being 102·5° F. The next day there was pronounced hæmaturia; the urine was bright red in colour and contained albumin. Her temperature was 99°; the bowels had acted and there was no further vomiting; the tongue was furred. On the 12th the urine was nearly black, having the appearance of stout, and contained nearly one-third albumin; both tonsils were enlarged. Her temperature was 102·5°. In the afternoon she was removed to a nursing home, where her temperature was found to be 103·6° on arrival. On the 13th the patient's tongue was cleaner and she had less difficulty in swallowing, but the tonsils were still swollen. The temperature had fallen to 101·5°. The urine was still very dark and loaded with albumin. From the 14th to the 19th there was a steady improvement, the temperature gradually fell to normal, the albuminuria rapidly diminished, and all swelling of the tonsils disappeared. The patient was removed home on the 19th. The urine still contained a trace of albumin, but in every other respect she was quite well. The treatment consisted of rest in bed in a warm room, milk diet, saline aperients every morning, and a mild diaphoretic mixture. There were four other people living in the house, none of whom was affected in any way by the smell of paint.

Fulham-road, S.W.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum allorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

QUEEN ALEXANDRA MILITARY HOSPITAL, LONDON, S.W.

(1) A CASE OF ARTERIO-VENOUS ANEURYSM OF THE ORBIT; AND (2) A CASE OF GUNSHOT FRACTURE OF THE FEMUR WITH DIVISION OF THE GREAT SCIATIC NERVE.

(Under the care of Major C. G. SPENCER, R.A.M.C., Professor of Military Surgery, Royal Army Medical College.)

CASE 1.—A gunner, aged 23 years, received a blow in the right eye from a fist on June 12th, 1906, at Standerton, Transvaal. He was sitting down at the time and the blow was quite unexpected. The man who struck him was wearing a ring on one finger. An ordinary "black eye" resulted and the skin was not broken. Three weeks later he began to be troubled with "buzzing noises" in the head, which got worse, and on examination six weeks after the injury a pulsating swelling, with thrill and murmur, was detected in the orbit. He was treated by compression of the common carotid and calcium chloride was given internally, but the swelling increased in size and he was invalided to England. On arrival at Netley in November there was marked proptosis of the right eye, with some swelling of the lids and lacrymation. A pulsating swelling of about the size of a hazel-nut projected under the upper eyelid; the pulsation was expansile, there were a distinct thrill and a loud musical whirring murmur, and it seemed that the main bulk of the aneurysm was deep in the orbit, the small swelling being apparently only an offshoot of it. Vision was ⅔ in each eye, and there was slight diplopia on looking upwards and to the right. The fundus was normal and the conjunctiva was healthy. He was transferred to London on Nov. 29th and on Dec. 5th the right common carotid was ligatured. Pulsation entirely disappeared on tightening the ligature but a slight thrill could still be felt over the right eyebrow. On Dec. 11th the stitches were removed, the wound being healed, and now pulsation was beginning to reappear but was confined to the small prominent swelling and no longer gave the impression of being deep in the orbit. On the 20th a small incision was made through the upper eyelid and the small swelling, which proved to be a fusiform dilated vessel, was dissected out between two ligatures. All pulsation and thrill at once disappeared and he has had no further trouble. At the present time (March, 1907) no trace of the symptoms remains beyond a slight fulness in the right orbit.

CASE 2.—A man, aged 35 years, was admitted to hospital on Oct. 27th, 1905. He had been shot through the right thigh in South Africa on Sept. 19th, 1901, receiving a compound comminuted fracture at the junction of the middle and lower thirds of the femur, the great sciatic nerve being divided. The fracture was treated on a Hodgen's splint and united slowly, union not being complete for three months. At the end of that time there was good union, with one and a half inches of shortening. There were paralysis of the leg muscles and anæsthesia in the distribution of the injured nerve. He was invalided to England in January, 1902, and was treated by massage and electricity but suffered from ulcers on the right foot at various times between March, 1902, and the end of 1903. In November, 1903, he was admitted to the Royal Herbert Hospital, Woolwich, where the sciatic nerve was sutured. This operation was followed by partial recovery, but only the internal popliteal division of the nerve regained its functions, the external popliteal division remaining paralysed. As he suffered a good deal of pain in the leg and foot and the foot was useless and liable to ulcers he was desirous of having it removed. On admission there was marked muscular wasting in the leg, which with the foot was colder than the sound leg. The calf muscles and flexors of the toes were contracted and he was unable to move the ankle or foot, the heel being drawn up and the foot flexed and inverted. There was anæsthesia of the outer side of the leg and foot. Owing to the condition of the heel, the outer part of which was anæsthetic, it was considered inadvisable to perform Syme's amputation, so on Nov. 16th, 1905, amputation was done through the malleoli by an internal flap. This gave a very satisfactory result; healing took place by first intention and the resulting stump was very good. He was discharged on Feb. 9th, 1906, wearing a Syme's boot and able to walk well and bear his whole weight on the stump.

Remarks by Major SPENCER.—Case 1 is of interest, as it is very unusual for such a condition to be produced by a blow from a fist. It is, perhaps, doubtful whether ligature of the carotid was really necessary; possibly local intervention would have succeeded, and the patient would in that case have been spared the risk of the major operation, but the appearance of the aneurysm was sufficiently formidable to deter one from attempting to deal with it directly in the first instance.

Case 2 is of interest as illustrating the special vulnerability and slight tendency to recovery seen in the external popliteal nerve, a point noted by Makins.[1] I am indebted to Major F. W. Begbie, R.A.M.C., for the history of this case.

ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, BRIGHTON.

TWO ABDOMINAL CASES.

(Under the care of Mr. GEORGE MORGAN.)

FOR the notes of the cases we are indebted to Dr. John Allan, late resident medical officer.

CASE 1.—The patient was a male infant, 11 months old, who was sent into hospital on June 28th, 1906, as a case of acute intussusception. The history was that on the evening of June 26th he vomited. He was given a dose of castor oil. The bowels acted twice, some mucus and blood being passed. The child screamed out frequently as if in pain. Vomiting took place after almost every feed. Blood was passed per rectum on June 27th and again at 5 P.M. on June 28th. The medical man who had been called in advised his removal to hospital.

On admission the child was found to be a stout, well-developed infant. The face had a drawn, anxious expression, and he cried out frequently, drawing his legs upon the abdomen. In the intervals he lay quiet in a state of semi-collapse. The abdomen was much distended and attempts to examine it were resisted. On palpation the abdominal muscles were found on guard. The abdomen was very resistant, especially in the upper part of the right side. A tumour could not be definitely made out before an anæsthetic was given. Percussion revealed a resonant note with slight impairment over the right abdomen. The temperature was subnormal, but the pulse was fairly good. About 8 P.M. (which was practically 48 hours after the onset) under chloroform the abdomen was opened in the middle line. An ileo-cæcal intussusception was found and this was easily reduced. The infant was rather collapsed when put back to bed and he did not sleep that night. Ten minims of brandy were given every four hours and saline solution was administered per rectum

On June 29th the child was very restless all day. A draught containing carbonate of bismuth, bromide of potassium, and tincture of opium was ordered to try to get the child to sleep. He was given one drachm of peptonised milk every hour for nourishment. He did not sleep and was very restless. On the 30th the sedative draught was repeated in the evening and he slept two and a quarter hours after 5 A.M. On July 1st one and a half ounces of peptonised milk were given every two hours. A mixture containing small doses of strophanthus and strychnine was given every four hours. The temperature rose after the operation. At 6 A.M. and 6 P.M. on the three days after the operation the temperature was 103·2°, 103·2°, 103°, 103·8°, 104°, and 102·8° F. Thereafter it gradually fell to normal and on the evening of July 4th it was just below normal. The bowels moved three times on June 29th and some blood was passed in each of the motions. On the 30th they moved twice and there was a trace of blood each time. On July 4th veal broth was given for nourishment and on the following

[1] Surgical Experiences in South Africa, p. 361.

day ordinary milk and lime water. There was now no difficulty in getting the child to sleep; indeed, he had generally to be wakened to have his nourishment. On the afternoon of the 6th three stitches were removed, as the wound looked perfectly healed. In the evening the child was found with the abdominal wound right open and several feet of intestine outside the abdominal cavity. The intestine was at once covered with cloths wrung out of sterilised water and under chloroform the intestine, after being douched with saline solution, was returned to the abdominal cavity and the abdominal wall was stitched in layers. The child had a fairly good night's rest. On the following day the temperature rose to 101·2° and for the next three days it kept slightly above normal. On the 8th he had diarrhœa and was sick frequently. The abdomen was very distended and tender. Albumin water was given for 24 hours. On the 9th whey was given, on the 10th Benger's food made with water, and on the 11th peptonised milk. The diarrhœa and sickness lasted for about 48 hours. The abdominal distension and tenderness likewise soon subsided. On the 16th the infant was having bread and milk and on the 20th he was having full diet for a child of his age. The brandy and stimulants which had been gradually diminished were now stopped and he was given cod-liver oil emulsion. After the catastrophe which followed the removal of the stitches on the first occasion no hurry was displayed in removing sutures this time. It was a fortnight after the operation before the first stitch was removed, and it was over three weeks before all were removed. The child was discharged on August 15th.

CASE 2.—The patient was a school boy, aged ten years, who was admitted to hospital on Dec. 7th, 1906. From the history it appeared that about 9.30 A.M. he was seized when running with severe pain in the right groin and a swelling appeared there. He felt sick but did not vomit. This sickening pain continued and he was taken to the hospital about 2.30 P.M. He walked there, but suffered excruciating agony. He had to be assisted when walking and he limped badly.

On examination the patient was found to be a slenderly built lad of fair muscularity. His face was drawn and anxious-looking, and he moved his right leg very slowly and deliberately. When placed in the dorsal decubitus he lay with his right thigh slightly flexed on the abdomen. A tense globular swelling was found in the right groin. This swelling was exquisitely tender to the touch and there was no impulse on coughing. It could not be reduced. The temperature was subnormal and the pulse-rate was only slightly accelerated. A diagnosis of strangulated inguinal hernia was made and he was admitted to hospital. About 4.30 P.M. an operation was performed and a tightly strangulated right inguinal hernia was found. Though the strangulation occurred only some seven hours previously the bowel was quite dusky and was losing its glistening appearance. The gut was freed and returned to the abdomen and the wound was then closed.

The patient had a fairly comfortable night. On the next morning the temperature was 98° F., and for the five days following the operation it remained subnormal. The pulse-rate was 86 per minute and the respirations were 32 a minute. On Dec. 8th he vomited three times and during the next three or four days he was sick once or twice each day in spite of the most careful feeding. On the day after the operation the bowels moved well after two enemas had been given. Until the 12th his progress was fairly satisfactory, except that he was occasionally sick and he had occasional slight pains in the abdomen, but on that date symptoms of acute mischief developed. He complained of very severe pain in the abdomen and vomited frequently. The abdomen was distended and tympanitic and he had some tenesmus. The bowels remained confined and there had been no action since the 8th. The temperature was 97·8°, the pulse was 80 per minute, and the respirations were 30 a minute. About 7 P.M. the symptoms became even more severe, and he vomited about every half hour. About 11 P.M. an opening was made in the middle line and on carefully examining the abdominal contents a mass like a thickened appendix could be felt in the right iliac region. As this mass was apparently adherent to the structures around it, it was considered better to attack it through an opening in the right iliac fossa, and therefore the median incision was closed. On examining the mass through an opening in the right iliac fossa it was found to be a commencing intussusception, and a small portion of the gut which had been previously damaged had become adherent to the abdominal parietes. The invaginated portion of bowel was released, the adhesions were broken down, and the wound was closed. All the acute symptoms were relieved and the patient's progress thereafter was satisfactory. He had no more sickness. On Dec. 14th his bowels moved slightly after an enema had been administered and on the following day they moved well after an enema had been given. Nothing of note occurred during convalescence. He was allowed up about the middle of January of this year and was discharged early in February.

Remarks by Dr. ALLAN.—Both cases are interesting because they had to undergo abdominal section twice in a week. Case 1 helps to prove that success attends prompt laparotomy in intussusception. In Case 2 it is of interest to note that the bowel was distinctly damaged, although the strangulation had occurred only a few hours before. It demonstrates the fact that in cases where the strangulation is tight prompt operative interference is necessary, otherwise there is great risk of gangrene of the strangulated piece of intestine supervening. In this case a damaged portion of bowel became adherent to the abdominal wall and proved an important factor in the causation of the intussusception. I have to thank Mr. Morgan for kind permission to use these notes.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Early Diagnosis and Cure of the Pre-suppurative Stage of Amœbic Hepatitis.—A Common Sporadic Seven-day Fever of Indian Ports simulating Dengue.

A MEETING of this society was held on April 9th, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

Major LEONARD ROGERS, I.M.S., read a paper on the Early Diagnosis and Cure of the Pre-suppurative Stage of Amœbic Hepatitis. He described 16 cases of fever, nearly all accompanied by acute hepatitis and a leucocytosis of a peculiar type, which he regarded as the early stages of hepatitis set up by an active or a latent amœbic dysentery, which commonly passed on to the stage of suppuration and then constituted amœbic abscess of the liver, which was so common in certain tropical countries. In nearly all these cases large doses of ipecacuanha were administered, in spite of the absence of all symptoms of dysentery in nearly all of them, with a view to curing the latent disease in the large bowel, which, according to his view, was the cause of the hepatitis present. The result had been a rapid cure of the hepatitis and of the dysentery, when present, the early cessation of the fever, and in all probability the prevention of the cases drifting on into the very fatal suppurative stage of the disease. In a few of the cases there were no actual symptoms even of hepatitis, the cause of the fever being entirely obscure, until an examination of the blood revealed the leucocytosis, and led to the adoption of the ipecacuanha treatment, with the result that the fever rapidly ceased as in the other cases. In one third of the cases the hepatitis was so marked that exploratory operation was carried out for liver abscess with negative results, yet after this they cleared up rapidly under the ipecacuanha treatment, which Major Rogers urged should always be resorted to before operative measures were undertaken in every case in which any doubt remained as to whether liver abscess had already formed or not. It was anticipated that the early diagnosis by the blood changes and the prompt adoption of the line of treatment advocated would lead to a considerable reduction in the number of cases of fever, which now frequently drift on into liver abscess, while being treated as malaria or some other disease, and in this way the present loss of life among Europeans, who came early under treatment, from amœbic abscess of the liver might be materially reduced when the methods advocated were generally adopted in the tropics.—Sir PATRICK MANSON said that the method of treatment advocated by Major Rogers was of the greatest importance. There were two schools with regard to the treatment of dysentery, those who believed in the administration of the sulphates and those who advocated large doses of ipecacuanha. Dysentery should, however, be regarded as a

symptom and not as a disease. There were several forms of dysentery; the two most defined were amœbic and bacillary dysentery. In amœbic dysentery ipecacuanha might be regarded as a specific, whereas in the bacillary form the drug was of no service. On the other hand, the sulphates were probably of service in bacillary dysentery. Ipecacuanha had fallen into disrepute because it had been used in bacillary dysentery. It was necessary to persevere with large doses of ipecacuanha for a long time. He was accustomed to give large doses for one week and smaller doses for a month. He had not used the drug as a routine treatment in cases of hepatitis but he had used it with great benefit in cases of hepatitis associated with dysentery. He would, however, in future use large doses in the treatment of cases of hepatitis following on amœbic dysentery.—Sir LAUDER BRUNTON said that for a long time quinine was used as a specific for ague without the method of its action being known. Now, however, its action on the plasmodium was well known. It would seem probable that ipecacuanha acted in a similar manner in amœbic dysentery. He had himself tried the drug in India for dysentery without any beneficial effect. Other remedies had, however, been equally unsuccessful.—Dr. JOHN ANDERSON said that the possibility of being able to diagnose the pre-suppurative stage of hepatitis by an examination of the blood was a matter of the greatest importance. He referred to the nausea and vomiting produced by large doses of ipecacuanha and said he had found that it was to a large extent prevented by the simultaneous administration of chloral hydrate.—Mr. J. CANTLIE said that he had frequently seen the temperature subside after the puncture of the liver by the needle even when only blood was withdrawn and he did not feel convinced that the fall in temperature was necessarily due to the administration of the ipecacuanha. He thought that most chronic forms of dysentery were amœbic in origin and that a chronic form of bacillary dysentery did not occur. He regarded ipecacuanha as a specific for amœbic dysentery.—Major ROGERS said in reply that he did not think that the liver should be punctured until a full trial had been given to ipecacuanha, for in not a few cases fatal results had followed puncture of the liver.

Major ROGERS also read a paper on a Common Sporadic Seven-day Fever of Indian Ports simulating Dengue. He described a short fever, which was the commonest met with in Europeans in Calcutta, although hitherto returned as either malaria or "simple continued fever," which had been differentiated by himself in the course of a study of 1350 consecutive cases of fever by means of the blood changes and clinical notes during the last two years' work in Calcutta. It began suddenly with severe headache, pains in the back and limbs, and pyrexia of a peculiar "saddle-back" type of from six to seven or slightly more days in the great majority of the cases, but sometimes presenting a continued type which was often mistaken for typhoid fever for a time, especially as it was accompanied by a very slow pulse relatively to the temperature. Just about half the cases were admitted during the terminal rise of temperature of about two days' duration, and as it rapidly fell during the inevitable use of quinine, such cases had been always returned as malaria hitherto, although the slow pulse was typically seen at this stage, and was in marked contrast to the rapid one of malaria during high fever. This seven-day fever had a very definite seasonal incidence during the late hot weather and early monsoon months in Calcutta, and declined just when the principal malarial rise of the year took place at the end of the rainy season, the two fevers together constituting one curve through both seasons and hence had been looked on as malarial. The seasonal prevalence differed totally from that of influenza, which the symptoms of the new fever closely resembled in some respects. It had also been regarded as dengue by some previous writers and quite recently had been stated to be only a sporadic form of that disease, although it was wanting in some of the chief characteristics of that disease, while its temperature curve differed widely from the classical descriptions of dengue both in leading text-books and in the accounts of previous great epidemics in India in 1824 and 1872, as was shown by quotations from the old writers on those outbreaks, so that the fever now described was probably a new one hitherto confused with malaria and dengue, for if it was but a sporadic form of dengue the present descriptions of that disease were quite inadequate to cover it, and would require most extensive modification. A bacillus cultivated from the blood of the seven-day fever cases was also described.—Dr. JOHN ANDERSON said that the description of the fever given by Major Rogers reminded him of a fever known in India as "ardent fever." This occurred in the hottest part of the hot season and especially in those exposed to the sun. All such patients did well. He did not think that quinine was of any service but bromide was of some use.—Sir PATRICK MANSON said that Major Rogers had set himself a difficult task in the diagnosis of the various fevers in tropical countries. There were a large number of undifferentiated fevers, of which the one here described was one. He did not think that the disease described resembled dengue, of which he had seen a good deal, for in that disease the pains were a marked feature and there was a definite eruption which was frequently followed by desquamation. The fever described corresponded to the simple fever described by Crombie. He mentioned a three-day fever followed by intense mental depression, which occurred at Chitral and affected Europeans and Goorkhas, but did not affect Hindoos; these fevers had been designated fever of acclimatisation but they were probably specific fever having a limited distribution.—Major ROGERS replied.

MEDICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on April 8th, Dr. PASTEUR, a Vice-President, being in the chair.

Dr. C. W. CHAPMAN exhibited two cases of Aneurysm of the Aorta. The first was a case of aneurysm of the third part of the thoracic aorta in a man, aged 37 years. He had been shown at the Medical Society two years ago and the details of the case were recorded in Vol. XXVIII. of the Transactions of the society. The specific history depended solely upon that of a small itching venereal sore which had attracted but little notice and consequently escaped adequate treatment. The case was now exhibited to emphasise further the policy of allowing such patients to undertake light work when the disease is in a quiescent state. This patient had left the hospital three years ago and he had practically continued work up to the present time. In the second case, the patient, aged 41 years, was suffering from Aneurysm of the First Part of the Thoracic Aorta. Pulsation was visible in the second right interspace but it was not well marked. Tracheal tugging was present. The superficial veins of the chest and abdomen were distended, especially on the right side. The right radial pulse could not be felt and the pupil on the same side was contracted. The x ray photograph confirmed the result of the physical examination.—Mr. F. DE HAVILLAND HALL discussed the case and referred to a similar one under his own care in which the patient had practically recovered. When distended veins were present it generally indicated an intra-thoracic neoplasm.—Dr. PASTEUR also emphasised the last point.

Dr. J. PORTER PARKINSON exhibited a case of Adiposis Dolorosa associated with Myxœdema in a woman, aged 60 years. She had noticed some of the fatty lumps in the arms for ten years and some had appeared recently. She had had much aching and shooting pains in both arms. Both the upper arms were abnormally fat, the circumference being 12½ inches on the right side and 13 inches on the left. There was also a good deal of diffuse fat. The patient also presented atrophy of the thyroid and other signs of myxœdema and Dr. Parkinson discussed the possible connexion of this disease with adiposis dolorosa.

Dr. A. F. VOELCKER exhibited a case of Multiple Serositis in a boy, aged nine years. There was no family history of tubercle nor of rheumatism but three people in the same tenement had recently died from tuberculosis and the boy was very frequently with them. The present illness began in December, 1905, when the patient was said to have had an attack of "pneumonia" from which he never recovered. On admission to the Hospital for Sick Children in May, 1906, he was short of breath and cyanosed. 40 ounces of clear, sterile fluid containing numerous lymphocytes but no tubercle bacilli were withdrawn from the right pleura. Three weeks later 20 ounces of similar fluid were removed from the left pleura. A week later ascites developed. During August and September, 1906, he was under the care of Dr. F. J. Poynton in University College Hospital with a definite attack of pericarditis. During October he again had definite pericardial friction, signs of fluid in both pleural cavities, and ascites. The case was probably tuberculous in origin,

though there were no certain evidences. Sodium chloride was at one time excluded from the diet, at another time administered in excess, but without effect in either instance.—Dr. POYNTON remarked that he had observed five cases of multiple serositis, four of which were fatal. Three of the five were of tuberculous origin and these had developed the symptoms, and after death revealed the evidences, of tuberculous meningitis. The remaining two cases were of rheumatic origin and from these the rheumatic diplococcus had been obtained.—Dr. DE HAVILLAND HALL referred to a case of undoubtedly tuberculous origin in which the ascites had improved under daily inunctions of guaiacol ointment (ten minims to the drachm).

Dr. POYNTON exhibited a case of Multiple Exostoses in a boy, aged six and a half years, who had presented certain nodular swellings on the bones of the extremities and trunk, dating almost from birth. There was no definite history of rickets, but the case had at one time been diagnosed as such. An exostosis springing from the head of the left radius had interfered with the movements of supination and pronation.—Mr. H. B. ROBINSON referred to the possible surgical treatment of the left elbow-joint.—Dr. VOELCKER discussed the origin of such lesions and suggested irregular ossification associated with rickets as the cause in this case.

Dr. L. A. CLUTTERBUCK exhibited a case of Infantilism. The child, a female, was 14 years of age, but exhibited the anthropometric measurements and weight of six years old. Radiographs were exhibited showing that the retarded development extended to the centres of ossification. The bridge of the nose was depressed but there was no history of syphilis, the child being the eldest of eight healthy children. There were no symptoms of cretinism, microcephaly, achondroplasia, congenital heart disease, or rickets.—The case was discussed by Dr. POYNTON, Mr. ROBINSON, and Dr. PASTEUR.

Dr. F. PARKES WEBER exhibited a case of Chronic Myelocytic (Spleno-medullary) Leuksemia treated by the Roentgen Rays. The patient was a woman, aged 46 years. There were extreme enlargement of the spleen and only very little enlargement of the lymphatic glands. There was considerable cutaneous pigmentation of the face, trunk, and extremities. The patient began to suffer from pains on the left side of the abdomen about the commencement of 1906. On admission to the German Hospital on Jan. 30th, 1907, the hæmoglobin was found to be only 40 per cent. of the normal and there was leucocytosis. She had been given arsenic and for about one week she was treated by exposure of the spleen, sternum, and both thighs to the Roentgen rays for ten minutes at a time. The white cells diminished in number, but on discontinuing the treatment the white cells began again to increase in number. Dr. Weber also exhibited a case of Great Enlargement of the Liver and Spleen of uncertain origin in a man, aged 42 years, who had been in the tropics, which was discussed by Dr. DE HAVILLAND HALL, Dr. CHAPMAN, and Mr. CAMPBELL WILLIAMS.

Mr. ROBINSON exhibited a case of Multiple Sarcomatous Tumour of the Left Femur in a girl, aged 14 years. Three weeks before Christmas, 1906, she noticed a painless swelling of her left thigh. Since that time it had ached occasionally but not especially at night. The tumour of the thigh involved the lower half of the femur. There was fluid in the knee-joint but no thickening of the synovial membrane. On the inner side of the head of the tibia were some swelling and tenderness and a skiagram showed a deposit in this situation. There were a greatly enlarged hard gland just below Poupart's ligament, some small glands along the iliac vessels, and a hard flattened gland of about the size of a two-shilling piece in the right axilla.—Mr. C. S. WALLACE believed that there were certain evidences in favour of osteomyelitis rather than sarcoma, but, on the whole, he was inclined to support Mr. Robinson's diagnosis.

OBSTETRICAL SOCIETY OF LONDON.

Advisability of Removing the Cervix in Performing Hysterectomy.—Exhibition of Specimens.

A MEETING of this society was held on April 3rd, Dr. HERBERT R. SPENCER, the President, being in the chair.

Mr. J. D. MALCOLM read a paper on the Advisability of Removing the Cervix in Performing Hysterectomy. It was pointed out that after a partial hysterectomy the cervix uteri, with its blood-supply to some extent cut off, and with its narrow central tube lined by mucous membrane which might be chronically inflamed, offered a favourable nidus for the development of pathogenic micro-organisms in the divided uterine tissue, whilst the provision for drainage of discharges was imperfect. Two cases were recorded in which local signs of insidious septic change in the cervix uteri were accompanied by evidences of irritation elsewhere, one patient suffering very severely from phlegmasia dolens and the other from a painful œdematous swelling in the side and in the joints. Both recovered. Notes of a third case were given, in which, after a partial operation by another surgeon, the cervix was found actively inflamed with a fairly copious muco-purulent discharge from the os and giving rise to much irritation of the lower bowel. A note of all Mr. Malcolm's fatal cases of hysterectomy was given. Excluding malignant cases (two deaths), those treated by the old-fashioned serrenœud (eight cases, of which six had already been published in detail), and one of enucleation of a fibroid, there remained six deaths. In two of these large fibroids so involved the cervix that the greater part of it was necessarily removed; in one the normal uterus was partially removed, and in one it was completely removed because in each case it was so incorporated with an ovarian tumour deeply buried in the broad ligament that its removal was easier than leaving it. These four cases died within 48 hours of the operations from the severity of the necessary procedures. In two other cases of panhysterectomy death was due to lung complications. It was held that these cases, although in five of the six the whole uterus was removed, offered no guidance to treatment on the main question raised in the paper. The effects of the various methods on the symptoms of the artificially induced menopause were also regarded as not giving very satisfactory indications for treatment, excellent results having been obtained by all methods. The removal of the cervix was therefore urged on the theoretical consideration that leaving it gave an increased opportunity for the development of septic mischief, and because of the belief that in practice the convalescence was smoother by this method. It was urged that in performing hysterectomy the cervix should be removed, that before operating the patient's health should be made as good as possible, and that no woman should be advised to retain a uterine tumour of any considerable size or which had become definitely prejudicial to her health. These were the points to be attended to with a view to improving the results of this, which was already one of their most successful operations.

Mr. ALBAN H. G. DORAN admitted that Mr. Malcolm had most ably pleaded for panhysterectomy, yet for several reasons, in part admitted by himself, his arguments could hardly persuade them that the so-called "subtotal" operation ought to be abandoned. In the first place the cervix was an important part of the pelvic floor which should not be treated as a negligible quantity by the operator. They knew how safely it could be spared when the body of the uterus badly damaged during the removal of an adherent ovarian tumour had to be sacrificed. In the second place, there was reason to believe that in order to insure the full benefits which should follow the saving of more or less of the ovaries in hysterectomy it was advisable to leave a portion of the endometrium as well; in other words, not only the cervix but a little more of the uterus should be spared. Mr. Doran had brought forward evidence, based upon long after-histories, of 60 subtotal hysterectomies showing the value of this practice. Mr. Doran laid great stress on long after-histories, for a woman convalescent from hysterectomy for fibroid was never so sure of permanent benefit as was a patient convalescent from ovariotomy for a non-malignant tumour. The method of Crewdson Thomas should be applied to all series of subtotal and panhysterectomies, and it would be instructive to hear some day of Mr. Malcolm's results after passing a test of that kind.

Dr. AMAND ROUTH did not consider that Mr. Malcolm had proved his contention. Hitherto, panhysterectomy in fibromyomatous uteri had been urged from the point of view that the cervix was apt to become malignant if not removed. It had not, however, been proved that fibroids predisposed to uterine cancer, and still less had it been shown that the cervix was especially prone to malignant changes if fibroids were present in the uterine body. Mr. Malcolm had advocated the removal of the cervix "on the theoretical consideration that leaving it gives an increased opportunity for the development of septic mischief." Dr. Routh thought that this was theory alone, and that Mr. Malcolm had advanced no sufficient proof that the cervix

was inflamed in his case, or that the auto-toxæmia from which the patient undoubtedly suffered was of cervical origin. He thought the phlegmasia and other symptoms in Mr. Malcolm's cases were secondary to infection of the pelvic cellular tissue. The disadvantages of the removal of the cervix should be carefully considered. The mortality of panhysterectomy was distinctly greater. Taking over 1000 cases collected by Pozzi, of each of these two forms of hysterectomy he found the percentage mortality of panhysterectomy was 10·4, whilst the mortality of the subtotal operation was only 7·4. The subtotal operation could be performed more quickly and there was less hæmorrhage and the hæmorrhage was more easily controlled; sepsis was much more likely to occur if the vaginal canal were opened up. The length of the vagina was maintained if the cervix was retained and colpocele could be avoided by drawing the stumps formed by the ligation of the uterine and ovarian vessels together on each side. This procedure was useless in panhysterectomy. There remained, too, the question of internal secretion and it was quite certain that such a glandular structure as the cervix must have one. If organs were to be removed for possible dangers in the future, where was the line to be drawn? He did not think that Mr. Malcolm had made out his case.

Dr. T. W. EDEN said that he had performed a large number of hysterectomies for fibromyoma by the supravaginal method and a small number by the total method, and he was equally satisfied with both. He was not at all convinced by Mr. Malcolm's arguments that the total operation possessed any real advantages over the other. Mr. Malcolm's objections to the supravaginal operation were two in number: (1) the blood-supply of the cervical stump was impaired by the operation and it was therefore more liable to become infected; and (2) the mucous membrane of the cervix was a greater source of danger than that of the vagina. With regard to the first objection it must be recollected that the blood-supply of the cervix consisted of the circular artery from the uterine and anastomosing branches from the vaginal arteries. In the supravaginal operation the uterine arteries were divided above the origin of the circular branches, while the vaginal arteries were uninjured; the blood-supply of the cervix was therefore not affected in any way by this operation. With regard to the second objection he thought that bacteriology showed the vaginal flora to be much oftener pathogenic than those of the cervix. The clinical evidence brought forward by Mr. Malcolm in support of his contention upon this point was singularly unconvincing. The occurrence of localised cellulitis around the stump after the supravaginal operation might be due to faulty technique; he had seen such cases himself and he explained them in that way. On the whole, he was not convinced that there was any practical advantage in the total operation. It was argued that better drainage was obtained by the removal of the cervix, but in ordinary circumstances drainage ought not to be required; it was much better to arrest hæmorrhage completely before sewing over the peritoneal edges. It certainly appeared to him that prolapse of the bladder was more likely to occur after the total operation, especially if vaginal drainage were employed for a few days afterwards. Since it could be more rapidly performed he should continue to prefer the subtotal operation except in special circumstances.

The PRESIDENT said that he had performed total abdominal hysterectomy for fibroids to the entire exclusion of the partial operation for the past six years and agreed with the main conclusions of Mr. Malcolm that total abdominal hysterectomy was superior to supravaginal amputation, but he did not think that Mr. Malcolm had produced much evidence of its superiority. He (the President) had given the points of superiority of the total operation at the Manchester meeting of the British Medical Association, in Allbutt, Playfair, and Eden's "System of Gynæcology," and in that society. He had not seen any evidence brought forward which led him to modify his opinion as to the superiority of the total operation when performed by Doyen's method. It was superior in that it had a lower mortality (as is shown in Sanger and Herff's extensive statistics[1]), it provided for drainage, it gave security against injury to the bladder and ureters and against unrecognised hæmorrhage, and it removed the cervix which might become infected, slough, contain unrecognised malignant disease or develop malignant disease subsequently. It was also less likely to be followed by intestinal obstruction if the peritoneum were closed by a purse-string suture. He had never seen prolapse or trouble with the bladder caused by the operation. Bumm had noticed these troubles after Wertheim's operation and attributed them to the use of gauze drainage. The President had not employed gauze drainage after abdominal hysterectomy for fibroids for several years past and knew that it was unnecessary and believed it to be injurious. The supposed advantage of the internal secretion of the cervix and the slight shortening of the vagina by the removal of the cervix could not be seriously set off against the above-mentioned advantages. Their importance was disproved by the excellent results of vaginal hysterectomy.

Mr. MALCOLM, in reply, said he was quite aware that his arguments would not be conclusive to those who thought the supracervical the better operation. He had brought forward all the clinical evidence he possessed against the view he advocated as well as that in its favour. Nevertheless, he had come to a very decided opinion, founded on the facts stated, that the complete operation was the better one. Of course, it was open to anyone to say that the complications which arose were due to faulty technique, but every care was taken and the first two cases offered no difficulties of manipulation, so that he himself was confident that so far as he was concerned these cases should have given no trouble. Mr. Doran had pleaded for long after-histories. Mr. Malcolm had not tackled this extremely laborious investigation in a series of cases and it might be that he heard most of his successful operations but he had plenty of long histories in which the results were all he could hope for. He had not met with trouble from weakness of the pelvic floor or from cellulitis around the bladder. He did not pack the vagina.

The following specimens were shown:—

Dr. H. RUSSELL ANDREWS: Sarcoma of the Cervix.

Dr. J. H. DAUBER: Fibromyoma containing a Calcified Fibroid lying free in the Uterine Cavity.

Dr. C. LOCKYER: Primary Tuberculous Salpingitis.

Dr. ROBERT WISE: Placenta from a case of Twins.

[1] Encyklopädie der Geburtshilfe und Gynäkologie, 1900, part 2, p. 91.

MANCHESTER MEDICAL SOCIETY.

Acute Appendicitis.

A MEETING of this society was held on March 27th, Dr. S. MORITZ, the President, being in the chair.

Dr. J. DRESCHFELD opened a discussion on the Diagnosis and Treatment of Acute Appendicitis and, considering that the affection as regards treatment is becoming more and more a surgical one, confined his remarks chiefly to the etiology, symptomatology, and diagnosis of the affection. That inflammation of the appendix was of such common occurrence was, he said, explained by its structure and function. On account of its richness in lymphatics and glandular follicles, the slow peristaltic movements, and the stagnation of secretion owing to the small opening into the cæcum, it formed a favourable soil for the development and growth of micro-organisms, and the presence of fæcal matter and concrements might easily lead to ulceration, necrosis, and perforation. Obliteration of the opening or lumen easily occurred and led to dropsy or empyema of the appendix, and its variability in length and position, together with the meagre blood-supply by a small terminal artery, explained the occurrence of twists, kinks of the appendix, and of slough and necrosis. Hence the frequent occurrence of appendicitis in infectious diseases (influenza, typhoid fever, dysentery, &c.) and after even slight traumatism. Appendicitis occurred more frequently in the young and middle-aged, as in the old the appendix, according to Ribbert and others, underwent involution, though in many old people the atrophic condition of the appendix was due to an affection of the appendix which might have occurred earlier in life and remained latent; its diminished frequency in women was, according to some, due to the fact that in the female the appendix was supplied by a second artery running in the ovario-appendicular ligament (Da Cott). Clinically a distinction was made between the acute, chronic, recurring, and latent form. The classification of acute appendicitis into catarrhal, suppurative, ulcerative, perforative, and fulminating forms was not a satisfactory one, as one form might develop from another, and even in the catarrhal form Sahli and others believed that there was a primary focus of pus, and appendices removed by operation early in the catarrhal form had shown the presence of hæmorrhages and small collections of pus. The symptoms by no means corresponded to the pathological changes found, yet appendicitis might be divided into mild and more severe

forms without symptoms of suppuration, appendicitis with suppuration, appendicitis with perforation and followed by general peritonitis, and the fulminating or septic appendicitis. Dr. Dreschfeld discussed the various symptoms corresponding to the several forms of acute appendicitis, each one of which might be absent, though in most cases the pulse, the fever (remittent with or without rigors), the muscular rigidity with the presence of an intumescence either in the right iliac region or the pelvis (rectal examination should never be neglected), and leucocytosis showed the presence of pus. The diffuse and general peritonitis and the fulminating type were recognised more by the aspect and general conditions of the patient than by the local symptoms. Dr. Dreschfeld briefly spoke of the complications, such as venous thrombosis, pylephlebitis, subphrenic abscess, liver abscess, empyema, meningitis, perinephritic abscess, &c., which might occur when the acute symptoms had subsided, and then spoke of the differential diagnosis. Primary typhlitis was rare, but did occur, as shown by post-mortem examination, where the appendix was found healthy and ulcers were found in the cæcum; it could not clinically be distinguished from appendicitis. Stagnation of fæces in the cæcum (stercoral typhlitis) occurred chiefly in old people and gave rise to no pyrexia and often very little pain in the ileo-cæcal region, and fæcal masses were often detected in other parts of the large intestine. Tuberculous appendicitis generally ran a chronic course; in children, however, it might set in more or less acutely. In children intussusception and acetonæmia brought on by errors of diet might give rise to symptoms simulating appendicitis but their recognition was not difficult. Mucous colitis, intestinal spasms, enteralgia, and the appendicular neurasthenia or hypochondriasis were chronic non-febrile affections. Of other affections which might simulate acute appendicitis they had to consider typhoid fever, which during the first few days might simulate appendicitis at a time when Widal's reaction could not be made use of, but the cultivation of the typhoid bacillus from the blood on a medium containing bile was possible early. Appendicitis might occur during the course of typhoid fever and be due to typhoid ulcers either during the third week or during convalescence or the fever might rouse a latent appendicitis into activity. Cholecystitis, especially if there were adhesions and the gall-bladder was dragged down, might simulate appendicitis and in females affections of the ovaries gave rise to symptoms difficult to distinguish from appendicitis; moveable kidney and hydronephrosis should also be mentioned as closely resembling in their symptoms acute appendicitis; also hæmorrhagic pancreatitis. The perforation of a gastric or duodenal ulcer or of a pyosalpinx causing perforative peritonitis was often only to be recognised by the history previous to the perforation. As croupous pneumonia at its onset had sometimes been mistaken for appendicitis it was well to examine the chest repeatedly if there be any suspicion of a pneumonic affection. As regards medicinal treatment, Dr. Dreschfeld only drew attention to the points now well recognised. The important question in which cases and when to operate Dr. Dreschfeld left his surgical colleagues to discuss, and he would only remark that from his own experience he was in favour of an early operation and that he remembered no case in which he regretted having advised operation, whilst in some cases an operation earlier might have prevented some of the most serious complications.

Mr. F. A. SOUTHAM made some remarks on the advisability of early surgical interference in acute appendicitis and mentioned details of a number of cases which illustrated the good results of the so-called "early" operation (viz., within the first 48 hours), as compared with those which attended operation at a later period in the course of an attack. As regards the indications for early operation, attention was called to the fact that whereas in the initial stage the pulse-rate and temperature bore no constant relation to the severity of the attack, painful rigidity of the abdominal wall most marked over the region of the appendix, with absence of abdominal respiration, the breathing being mainly or entirely thoracic, were symptoms usually pointing to the onset or the presence of the destructive form of appendicitis, and indicative either of perforation or of gangrenous changes taking place in its walls. The chief advantages of the "early" operation were that the appendix could be removed before suppuration had taken place, and if it had not perforated or become gangrenous the operation was an aseptic one. If suppuration had taken place, even though not encysted or surrounded by a barrier of lymph, in the early stage the pus would usually be limited to the region of the appendix; in these circumstances its evacuation together with the removal of the appendix, if followed by free drainage, generally checked the spread of the suppuration, which otherwise so often tended to become general.

Mr. A. H. BURGESS thought that too much stress had been laid on the difficulties of diagnosis of acute appendicitis and considered that of all the acute diseases to which the human abdomen was liable acute appendicitis was the least difficult to diagnose. Its symptoms were of a definite character and, as had been shown by Murphy and other surgeons, followed one another in a characteristic order—viz.: (1) pain, felt at first around the umbilicus, later over the appendix; (2) nausea, which in many cases, but not in all, proceeded to vomiting; (3) localised tenderness, most marked over the appendix; (4) rigidity of the overlying abdominal muscles of the "involuntary type"; and (5) rise of temperature and pulse. The importance of a rectal examination in every suspected case was strongly insisted upon, as was also the avoidance of morphine until the decision for or against operation had been made. Attention was drawn to the deceptive improvement in the symptoms which not infrequently manifested itself at the time when the appendix became gangrenous or perforated, due to a temporary cessation or diminution of toxin-absorption—an improvement which had been frequently overlooked and had led to fatal delay in advising operative treatment. The advantages of early operation, while the infection was still limited to the appendix, were enumerated, and the chief objections that had been raised to its universal adoption were considered. Having regard to (1) the minimum of risk attending removal of the appendix while the infection was limited to it; (2) the impossibility of foretelling whether the infection would remain so limited; (3) the greatly increased risk of operations carried out after extension of the infection to the peritoneum; and (4) the many disadvantages (apart from risks) which attended operations in the "abscess" stage (prolonged convalescence, weak abdominal scar, numerous adhesions, and appendix often left behind), Mr. Burgess advocated removal of the appendix as soon as a definite diagnosis of acute appendicitis had been made, believing that only in this way would the mortality of appendicitis be reduced to a minimum.

Mr. J. E. PLATT agreed with the remarks of previous speakers as to the necessity for early operation in acute appendicitis and expressed the opinion that at no distant date operation would be regarded as just as urgently required in these cases as in cases of strangulated hernia or ruptured gastric ulcer.

Mr. F. STANMORE BISHOP thought that most surgeons would agree as to the advisability of an operation during the first 48 hours, if that could be obtained, but it was not always possible, first through doubt as to the diagnosis, and secondly through refusal on the part of the patient to submit. The main difficulty, however, was not then, but in the period immediately after—that of the intermediate operation as it was called. It was only necessary to look at the second of Mr. Southam's tables to recognise the great mortality which attended operations during that period, whereas if it were in any way possible to wait until a quiescent period the mortality was *nil*. His own experience tallied precisely with that. Moreover, they did not always get these cases during the first attack. Many patients had a previous history of several more or less mild recurrences. If such a patient came during the early period of one of these secondary attacks, was it wise to operate? He though it was infinitely preferable to wait if that were possible, since such appendices were frequently buried beneath adhesions or behind the cæcum, needing long and sometimes tedious dissection to enucleate them, whilst the risk of setting free small collections of virulent pus was great. He believed that no hard and fast rule was possible. Each case must be judged on its own merits.

Dr. J. E. HELM, Dr. A. MACDOUGALL, and Mr. G. A. WRIGHT also took part in the discussion.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

Exhibition of Specimens.—Sacro-coccygeal Tumour.—Cerebro-spinal Meningitis.

A MEETING of this section was held on March 15th, Dr. W. R. DAWSON being in the chair.

Dr. W. BOXWELL exhibited a Cerebellar Abscess taken

from a boy, 14 years of age, who, his mother said, had always been an idiot. About Christmas, 1906, he was struck behind the ear, where a lump subsequently arose, and at an operation performed on Jan. 12th this was found to be a suppurating hæmatoma; the mastoid cells were also trephined, but no particular sign of disease was found. On further exploration a suppurating track was found leading down through the occipital bone from which pus was slowly oozing. On the 25th the skull was trephined and the brain was explored for abscess, but none could be discovered. Five days afterwards the boy died. At the necropsy a large cerebellar abscess, which had opened of itself on the under surface, was found on the right side.

Mr. K. E. L. G. GUNN exhibited specimens of Sarcoma of the Femur and of Tuberculous Disease of the Knee-joint. Both of these cases presented symptoms of chronic inflammation of the knee-joint, which was believed to be tuberculous. In one instance the diagnosis was correct; in the other it was very much mistaken.

Mr. SETON S. PRINGLE read a paper on a Sacro-coccygeal Teratoid Tumour with Formation of Metastases in the Groin. The growth had been removed from a man, aged 57 years, who had first noticed it 35 years previously as a small lump in the middle line behind the anus. Since that time the tumour had grown slowly. At the time of the operation it measured 15 inches over all, from the lower to the upper extremity, and 11 inches from side to side. Two metastatic growths, each of the size of a large hen's egg, were present in the right inguinal region; one of these had appeared 33 years and the other 20 years prior to the time of examination.

Mr. ROBERT J. HARVEY described a case of Cerebro-spinal Meningitis occurring in a girl, aged ten years. While swallowing a piece of liver she choked, and, not getting much relief, she was taken to a hospital where she developed great tenderness down the spine. She passed into a comatose condition; her eyes were open but there was no corneal reflex. She died the same night. On the next morning Mr. Harvey drew off some cerebro-spinal fluid by lumbar puncture. The slides which he had prepared showed a diplococcus in great numbers, even in the original fluid. They were distinctly non-Gram staining. One of the slides showed a capsule round the cocci, but some observers believed that such capsules did not exist.—Professor ARTHUR H. WHITE said that with regard to the cocci which exhibited capsules he had found the same in some of the organisms which he had got from certain cases this year. Weichselbaum and his school denied absolutely the existence of a round capsule in his coccus, but Jäger, who had considerable experience, stated that capsules were frequently seen. Between the supporters of the two there was considerable difference of opinion, both on that point and also as to whether the organisms were always Gram negative. The former school said that those organisms which were Gram positive were not the specific organisms. He mentioned the fact that sub-cultures of an apparently pure non-Gram staining organism became Gram-staining as showing that the question of staining was not yet settled.—Dr. CHRISTOPHER GUNN said that he had seen the child in the hospital. He was inclined to think that she had been ill for a longer period than the parents made out and that the choking was probably some defect of swallowing. About one and a half hours before death there were five or six fairly typical spots on her limbs. After death the body was almost covered with them.

HUNTERIAN SOCIETY.

—A meeting of this society was held at Poplar Hospital on March 27th, Mr. John Poland, the President, being in the chair.—Mr. T. H. Openshaw showed the following cases: 1. A boy, aged 18 years, who had old Tuberculous Disease of the Knee-joint resulting in nine inches' shortening of the leg. 2. A little girl with Double Congenital Dislocation of the Hip successfully treated by Lorenz's method. The reposition was functionally perfect on both sides and anatomically perfect on one side. Mr. Openshaw said that by this method, out of 20 cases, six perfect results, nine functionally but not anatomically perfect results, and five cases in which relapse occurred might be expected. 3. A case of Rheumatic Ankylosis. The knees, ankles, and hips were ankylosed and for five years the patient did not walk at all. Now, with Hessing's apparatus with elastic traction, he could walk fairly well. 4. A child with Congenital Absence of one Fibula and the Characteristic Groove on the Tibia. Mr. Openshaw considered that such cases were due to intra-uterine fracture. 5. An infant with Congenital Shortening of one Femur and Absence of Fibula. 6. A girl with Scoliosis and Rigidity of the Cervical Spine, possibly of rheumatic origin. 7. A child with Congenital Absence of the Left Tibia and Partial Absence of the Right Tibia, probably the result of intra-uterine fracture. 8. Ankylosis of Both Hips and Knees due to Gonorrhœal Arthritis. The patient was able to walk with splints fitted with elastic traction.—Mr. Hugh M. Rigby showed the following cases: 1. A boy with Both Forearms fixed in a position of Pronation. The head of the radius on each side was displaced and there was ankylosis of both radio-ulnar joints. 2. A woman, aged 37 years, who had suffered from ascites in childhood. A few months ago her abdomen was opened in another hospital and fluid was removed. She was admitted into Poplar Hospital under the care of Dr. Theodore Thompson with ascites and intestinal obstruction. Mr. Rigby opened the abdomen and found great distension of the small intestine. There was gradual narrowing of the lower end of the ileum and the cæcum and ascending colon were like those of a child, evidently a congenital condition. The patient made a good recovery after an ileo-sigmoid lateral anastomosis. 3. A boy from whose Ureter a Stone had been removed by a para-sacral incision. Mr. Rigby considered that this incision was indicated when a stone was impacted within two inches of the bladder, the operation by this method being easier and affording better drainage than the usual method.—Dr. H. Theodore Thompson showed the following cases: 1. A woman with a To-and-fro Aortic Murmur, Syncopal Attacks, and Tabes Dorsalis. He considered that she had syphilitic aortitis. 2. A man with an Abscess of the Lung treated by administration of creasote internally up to half-drachm doses and inhalation of creasote and iodine. He had gained 18½ pounds in weight in three months and was practically well. 3. A typical case of Disseminated Sclerosis.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

—A meeting of this society was held on March 27th, Dr. E. H. Lawrence Oliphant, the President, being in the chair.—Dr. Kelly showed a Ruptured Tubal Pregnancy, for which an operation was performed 24 hours after the onset of the symptoms.—Dr. J. M. Munro Kerr showed a Large Multilocular Ovarian Cyst removed from a patient, aged 14 years.—Dr. A. N. McLellan showed a Large Thin-walled Hydrosalpinx.—Dr. John Lindsay described two specimens of Malformation of the Fœtus.—Dr. J. Nigel Stark read notes on a case of a Fibroid of the Cervix Uteri, weighing 17 pounds and measuring 34 inches in circumference and 27 inches from side to side. It was removed by abdominal section and the operation was rendered somewhat difficult owing to the size of the tumour and to adhesions with the omentum and bowel. The body of the uterus could be seen perched upon it in front, freely moveable and not implicated in its mass. The tumour was subperitoneal in origin and grew from the posterior median part of the cervix; there was no pedicle to be found. The patient was 40 years of age and had had four children. She made a good recovery.—Dr. Munro Kerr said that in most cases of cervical fibroids the tumour could be shelled out of its bed and the uterus left intact. He had removed a tumour weighing 14 pounds and had fixed the uterus to the anterior abdominal wall, the patient subsequently menstruating.—Dr. Russell read notes on several cases of Pruritus Vulvæ which he classified under two headings—namely, those cases due to local conditions and those due to general conditions. The treatment was often unsatisfactory, local applications of heat and ointments being used. When the patient's health was suffering the parts ought to be excised. The danger of subsequent malignant disease occurring had to be kept in view in the treatment of these cases of pruritus.—Dr. Russell and Dr. J. Edgar communicated notes on several cases of Kraurosis Vulvæ.

ÆSCULAPIAN SOCIETY.

—A meeting of this society was held on April 5th, Dr. J. R. T. Conner, the President, being in the chair.—Mr. Elmore W. Brewerton demonstrated the following eye cases:—1. So called "Embolus" of Arteria Centralis Retinæ in a woman, aged 54 years, who one year ago developed sudden total loss of sight in the right eye while recovering from right hemiplegia. There was now well-marked optic atrophy, the disc was blanched, and the arteries appeared as white threads. The so-called "embolism" was probably an endarteritis with subsequent thrombosis and was seldom found in association with endocarditis,

but often occurred in cases of hemiplegia either before or after the attack. 2. A girl, aged 20 years, whose right eye showed Absence of the Arteria Centralis Retinæ, probably due to a congenital abnormality and a reversal to the type met with in the carnivora, especially the wolf. 3. A girl, aged nine years, with Spurious Optic Neuritis which had existed for three years without affecting the vision. The condition was that of congenital swelling of the disc due to a form of opaque nerve fibres. 4. Pseudo-Glioma in a baby, aged ten months, showing shrunken right eye, small anterior chamber with retracted angle, old iritis, and greatly decreased tension—signs which all pointed away from true glioma. The usual history was that a child had had convulsions, was extremely ill generally, had general congestion of the eye, and had no fundus reflex. Pseudo-glioma was probably due to a septicæmia, so was really a form of septic infarct into the vitreous, which got filled with purulent, but not very virulent, material. The condition subsided and left a dense cicatricial mass in the vitreous. The treatment was to leave the eye alone.

Reviews and Notices of Books.

Anæsthetics: their Uses and Administration. By DUDLEY W. BUXTON, M.D. Lond., M.R.C.P. Lond. Fourth edition. (Lewis's Practical Series.) London: H. K. Lewis. 1907. Pp. 415. Crown 8vo. Price 7*s.* 6*d.*

A HANDBOOK which has so well justified its existence as to have reached a fourth edition needs little in the way of commendatory criticism, but we deal at some length with the latest issue of Dr. Dudley Buxton's excellent and well-known volume because there are contained in it several important new features to which attention may profitably be drawn, while a word of praise must be given to the complete manner in which the writer has covered all the wide field comprised in the practical side of anæsthesia. A valuable chapter deals with the use of anæsthetics in obstetric practice. This is an aspect of the matter to which the text-books commonly pay too little attention and a precise knowledge of which is of the greatest service to the general practitioner. It is not merely that a patient's comfort is so materially enhanced by the presence of some degree of anæsthesia in labour, but, further, the safety and the proper progress of a confinement are directly aided by the employment of chloroform in the various stages of the birth. Dr. Buxton points out in a series of epitomised rules the degree of anæsthesia to be reached in the various circumstances of normal and abnormal cases of confinement, and we consider his directions in this matter to be one of the most valuable portions of the volume. The old objections to administering chloroform during labour are nowadays widely abandoned, but there are still many whose fears are justified in the absence of exact knowledge in the matter. Better no chloroform in many cases than chloroform wrongly used. To all who may be swayed by such a feeling we most warmly recommend a perusal of this chapter on the matter in Dr. Buxton's little book.

The present edition has been brought up to date by considerable additions. The new matter relates mainly to dosimetric apparatus for the administration of chloroform, to ethyl chloride and allied drugs, and to spinal anæsthesia. The last is a topic which is often omitted from books upon anæsthetics and we are glad to see it included in a volume of this nature, which is designed to give to the student and the practitioner a good general survey of the entire subject of anæsthesia. With the large amount of literature that has accumulated quite recently upon matters germane to anæsthetics, such as, for instance, shock and the gases of the blood, Dr. Buxton has wisely not attempted to cope. He prefers, generally speaking, to lay down the practical rules deduced from the scientific work of physiologists rather than to give an account of the work itself. The author finds ethyl chloride not good for alcoholic cases, which opinion is in interesting contrast with that of some other anæsthetists who in this very class of case select it as against nitrous oxide. He does not consider posture as of much importance in the case of this drug except where the aged are concerned.

With regard to the administration of chloroform Dr. Buxton is a warm supporter of Professor Vernon Harcourt's apparatus, of which he gives an excellent account and from which he has obtained highly satisfactory results. In the chapter upon Spinal Anæsthesia an accurate account is given of the exact method to be employed, with a couple of figures, supplied by Dr. J. Mackenzie Davidson, to show the position of the needle. The author prefers stovaine to other drugs for spinal anæsthesia when this method is employed, but he thinks that at present its dangers are greater than those of chloroform in skilled hands. He enumerates a formidable list of after-effects that may be evoked. A short account of regional anæsthesia is also given, as well as a comprehensive description of local analgesics. The volume concludes with an interesting chapter upon the Medico-legal Aspects of the Administration of Anæsthetics. Here the cases are discussed wherein persons have alleged that they were chloroformed against their will and with astounding rapidity, and the attitude is considered of the person who is conscious but powerless to resist. Discussing the possibility of anæsthetising people during sleep the author relates the experience of Dolbeau who in one series of nine persons anæsthetised six without awakening them.

In a chapter upon the accidents of anæsthesia and how to treat them Dr. Buxton wisely alludes first to the precautions which must be taken to avoid the occurrence of accident. It is in the prevention of accident far more than in its treatment that an anæsthetist's skill and experience are commonly exhibited, and it may be laid down as an axiom that the more accomplished the administrator the less often will he require skill in the treatment of dangerous conditions. Dr. Buxton, we are glad to see, lays stress upon the ill effects of an enema given shortly before operation; not uncommonly severe shock is caused by this proceeding. Even in the case of rectal operations there should be at least one hour's interval between the administration of the enema and the commencement of the inhalation of an anæsthetic. Dr. Buxton has nothing to say in favour of the use of alcohol before the administration of an anæsthetic.

Recent Progress in the Study of Variation, Heredity, and Evolution. By ROBERT HEATH LOCK, M.A., Fellow of Gonville and Caius College, Cambridge. London: John Murray. Pp. 299. Price 7*s.* 6*d.* net.

A COMPREHENSION of the laws of heredity is so important for those who work for the improved physique of the human race that it is matter for regret that so little is known about the subject with any certainty. Medicine has been so fully occupied by the study of disease in the individual, and the study of sanitary and other sciences concerned with its prevention, that the attention of the medical profession has not until quite recently been directed to the power of heredity and environment on the physical and mental nature of man. When it is remembered that Darwin's "Origin of Species" was only published in 1859, and that for many years after that event the problems Darwin had given to the world had of necessity to be confirmed and worked out in detail by those engaged in the study of botany and zoology, this indictment is scarcely so grave as it would at first sight appear. Dr. Archdall Reid has pointed out in a manner that challenged and held the interest of both the medical and scientific public the vital connexion

of the problems of health and disease with the biological problems of evolution, heredity, and variation, and since the publication of his work, "The Present Evolution of Man," the discovery of Mendel's researches has shed a fresh light on many puzzling questions connected with heredity. The results thus obtained within the past five years are of such practical value that some handbook is called for which presents to the public in small compass a summary of this recent progress.

With the reservations noted below Mr. Lock's volume supplies this want. As the preface states: "So far-reaching are the results already arrived at ..... both in their scientific interest and in their probable influence upon human affairs, that it seemed desirable to give an immediate account of these and of kindred lines of recent study." In the first two chapters a brief summary is given of the various theories regarding the origin of species—the Lamarckian, Darwinian, and the mutation theories of Hugo de Vries—and also of the proofs of inorganic and organic evolution. Natural selection is next discussed and the chief arguments in favour of and against the inheritance of acquired characters are considered. One chapter deals with the remarkable results obtained by the methods of biometry introduced by Sir Francis Galton and now carried on so ably by Professor Karl Pearson. Another chapter is devoted to an exposition of the mutation theory, and the concluding third of the book is occupied by a description of Mendel's law, some of the intricate problems it sets or explains, and illustrations of its practical results. Readers of the discussions in our columns in 1899 and in 1903[1] are aware of the confusion of thought existing even in scientific circles as to the transmission of acquired characters. It behoves all medical men who desire to study heredity to try to understand very clearly this intricate problem; the attitude assumed by the medical profession towards this question will in the near future be of extreme importance to the welfare of the community. Most of the evidence to-day available points to the non-transmission of acquired characters; examples apparently pointing to the opposite conclusion are usually due to the difficulty of distinguishing between the inborn variations and the variations acquired during the lifetime of the individual when several successive generations are exposed to identical environmental conditions. Before the researches of de Vries and the recent discovery of Mendel's work (which was carried out at the same time as that of Darwin and then lost to the world for 40 years) Mr. Lock points out that the methods of plant and animal breeders depended upon guess-work or practical experience, but, he adds, "we are now within sight of the day when a complete system of precise scientific methods will have been elaborated. The time required for the development and application of these methods must chiefly depend upon the apathy or enterprise of those in whose hands rests the means of subsidising this kind of work, for without proper resources the progress of any such study must of necessity be slower than it would be if properly equipped establishments were at the disposal of duly trained experimenters receiving an adequate remuneration." With these words we cordially agree. The inadequate endowment of scientific research in almost every department in this country is matter for grave apprehension as to our future progress. As a nation we "muddle through" by experience after many blunders, and valuable time, energy, and money are wasted irretrievably where foresight gained by science would have yielded quicker and more profitable gains. Mr. Lock proves his point by his examples of the rust-free and other desired strains of wheat which have been obtained by the application of Mendel's laws to the cultivation of wheat. Medical men will be interested to learn that Mr. W. Bateson of Cambridge from his study of the pedigrees of animals believes it is highly probable that certain congenital diseases in man are inherited in accordance with Mendel's law.

Towards the end of his book the author states that "the nearly historical order in which the subject-matter has been ..... presented has inevitably rendered the treatment a little disjointed." We regret to have to confirm this statement. This historical survey has, moreover, rendered the arguments difficult to follow, and the constant references to counter-arguments in future or previous chapters break the line of the reader's thought and distract the attention. The subject to be condensed into 290 odd pages is so complex, so packed with facts, that only the most salient features should have been selected, and these should have been presented with concise definitions, uninvolved, methodical arguments and a straightforward style, such as is adopted by writers of students' text-books. To understand Mr. Lock's chapters on Mendelism the student would require to refer to Mr. R. C. Punnett's admirably clear little book on that subject. Mr. Lock is, in fact, hampered by too much knowledge, and his somewhat laboured style of writing will, we fear, prevent the volume receiving the welcome and wide reception from the general public which its subject matter so greatly deserves. We regret exceedingly to find these faults in a book so conscientious and thorough.

[1] THE LANCET, October and November, 1899, and July, August, September, and October, 1903.

Midwifery for Nurses. By H. RUSSELL ANDREWS, M.D., B.S. Lond., M.R.C.P. Lond., Assistant Obstetric Physician, London Hospital. With illustrations. London: Edward Arnold. 1906. Pp. 308. Price 4*s.* 6*d.* net.

THIS little work has been written by Dr. Andrews for the use of pupil midwives. A perusal of it gives a good idea of the amount of knowledge a midwife is required to have at the present day, and the amount certainly is considerable. It is fairly easy for the writer of such a work, now that he has the regulations of the Central Midwives Board to guide him, to refrain from going into details which are not necessary. It is, however, certainly surprising to find the amount of detail which is given in a book of this kind, and while we feel that the modern midwife at any rate should be well trained yet we wonder whether the ordinary type of pupil midwife is really capable of learning and retaining such an amount of information. Dr. Andrews has certainly done his work well, his book is clearly written and well illustrated, and if we find certain statements to which we may take exception our criticism does not mean that we do not approve of the general style of the book, which is excellent. We regret to see that the old-fashioned and unsatisfactory method of treating the nipples with eau de Cologne or some similar astringent is still recommended; we would advise as a much better plan the use of lanoline or any ordinary antiseptic ointment. On p. 43 is the statement that if a woman continues to suckle her child when pregnant uterine contraction may be set up and abortion induced. We wonder what authority the author has for this statement. Cases of lordosis so marked as to simulate pregnancy are so uncommon that it seems hardly worth mentioning them in a book intended for midwives. Personally, in a very considerable experience we have never seen such a case. The account of abdominal palpation is, as it should be in a book of this description, especially good. In the instructions for passing a catheter the nurse is told if there is any difficulty in finding the urethra to place the patient on her back. As a matter of fact such difficulty is much more likely to be met with in this position than when the patient is on her side, the position we suppose Dr. Andrews would recommend, although no instructions are given upon this

point. There can be no question as to the marked superiority of the lateral position in passing a catheter. We regret to see that our old and tried friend tincture of iodine is said on p. 67 to be a weak antiseptic; that it is objectionable is true but that it is weak is wholly inaccurate, as any chemist will tell the author. In the section on the mechanism of labour we notice that the old erroneous teaching about flexion of the head is perpetuated; no doubt this is not a matter of much importance in a text-book for midwives, but still accuracy is a good thing, and it has long ago been shown that at the commencement of a normal labour the head is already completely flexed. In the management of cases of unreduced occipito-posterior presentations instructions are given to flex the head by pressure on the forehead, but the necessary addendum that such pressure will only be of any value if applied during a pain is not given. We can hardly believe that even a modern midwife should be taught to rotate the head manually with the whole hand in the vagina, but so it appears they are taught, at any rate by the author. The statement that where the diagnosis is difficult the nurse should feel for an ear and that the lobe will point towards the occiput is inaccurate and misleading. Anatomically, Dr. Andrews should remember that the lobe of the ear is the lobule and as a matter of practice the groove between the pinna and the skull is a much more easily appreciated and trustworthy guide than the direction of the pinna as a whole, which we suppose is what is meant. The section on the artificial feeding of infants is good and clear. We think, however, that all milk given to a baby should, at any rate, be scalded if it is not sterilised. We presume that sterilised is meant when the statement is made that boiled milk gives rise to scurvy. This is certainly not true of scalded milk even if it be true of sterilised milk. No doubt cases of scurvy do occur from time to time but they are infinitely rare and the risk is so small that we certainly think it is almost negligible. It is far better for the ordinary baby to run the very slight risk of scurvy than to drink unboiled milk. Pasteurisation, in our opinion, is quite unfeasible for the ordinary poor mother, while any woman, however careless, can scald her baby's food. On the whole there are a good many little points of detail in this text-book on which we differ from the author, but none the less the book is a fair example of its kind, although the arrangement of the chapters is rather wanting in method. No doubt many of these faults will be corrected in any future edition.

LIBRARY TABLE.

Aids to Dental Surgery. By ARTHUR S. UNDERWOOD, M.R.C.S. Eng., L.D.S., and DOUGLAS P. GABELL, M.R.C.S. Eng., L.R.C.P. Lond., L.D.S. London: Baillière, Tindall, and Cox. 1907. Pp. 126. Price 2*s.* 6*d.*—This second edition is really the work of Mr. Gabell but he has had the advantage of Mr. Underwood's supervision. Mr. Underwood has read all the proofs and given valuable aid. The arrangement of the matter has been considerably altered to harmonise with more modern ideas and two new chapters on bacteriology and the hygiene of the mouth have been introduced. The whole book is brought up to date. The object of the authors is to treat most fully those matters the discussion of which comes obviously within the range of the theoretical portion of examinations. That portion of dental surgery which is purely manipulative is entirely omitted. The book is what it pretends to be, an "aid" to dental surgery, and it will, we think, be appreciated by the large body of dental students. The book is well arranged and well written.

The Municipal Year Book of the United Kingdom for 1907. Edited by ROBERT DONALD. London: Edward Lloyd, Limited. 1907. Pp. 684. Price 3*s.* 6*d.* net.—This is a compilation containing a mass of information, among which every ratepayer will find something to interest or to distress him as the case may be. The complex methods of modern life strike the reader as more wearing than ever when he sees them set down, as in this book, in masses of figures and tables.

The Medical Annual. A Year-book of Treatment and Practitioner's Index. 1907. Twenty-fifth year. London: Simpkin, Marshall, Hamilton, Kent, and Co. Bristol: John Wright and Co. Pp. 863. Price 7*s.* 6*d.* net.—We have, in noticing previous issues of this annual, almost exhausted the language of eulogy, so that little more need be said now than that the present edition is worthy of its predecessors. It is the oldest of the annuals and the accumulated experience of many years has enabled the editors to bring the work to a very high degree of perfection. The contributors are all known to be experts in those branches of the medical sciences with which they deal and much judgment is shown in the selection of the material dealt with and in the comments which are made. Coloured plates have always formed a great feature of the annual and the increased circulation has enabled the publishers to be very generous in the provision of coloured illustrations. This year they include several relating to cancer and two picturing spirochæta pallida. For any busy practitioner who wishes to keep himself up to date no better volume can be found.

JOURNALS AND MAGAZINES.

Folia Therapeutica: a Periodical Journal relating to Modern Therapeutics and Pharmacology for Medical Practitioners. Edited by J. SNOWMAN, M.D. Brux., M.R.C.P. Lond. London: John Bale, Sons, and Danielsson. January, 1907. Pp. 31. Price 1*s.*—This forms the first number of a new medical publication which it is proposed to publish quarterly. The idea of the proprietors is to devote the journal to publications on the progress of modern therapeutics and pharmacology, and to present in a brief and concise manner the methods of treatment and preparations which can be safely recommended for use and which constitute a real advance in therapeutics. The evidence given for the trustworthiness of any treatment or drug will consist in the authority of the authors by whom or under whose supervision the investigations have been made. It is intended that the journal shall contain original contributions from British and continental authorities on therapeutics and pharmacology; reprints, translations, and abstracts from British and continental medical journals relating to therapeutics, and reports from leading clinics and hospitals. This first number faithfully carries out these intentions. Professor C. A. Ewald (Berlin) contributes an interesting article on the Treatment of Gastric Ulcer and its Complications. He dwells particularly on the course of treatment to be pursued after recent hæmatemesis and considers rest the most important point in the measures to be adopted. He speaks favourably of the use of gelatin in combination with fat in the treatment of those cases of gastric ulcer in which hæmorrhage has taken place. Dr. Adolf Baginsky (Berlin) writes on the Subcutaneous Injection of Physiological Saline Solution in the Treatment of Diseases of Children. Such injections have produced favourable results in his hands in cases of severe summer diarrhœa of children. Amongst other contributions to this number are the following: On Yeast Therapy, by Professor E. Roos; the Scope of Digitalis, with Special Reference to Chronic Kidney Disease, by Dr. N. Tirard; Some Observations on the Therapeutics of Chronic Heart Disease, by Dr. F. J. Wethered; and Uterine Hæmorrhage treated by Styptol, by Dr. M. Handfield-Jones. There are several abstracts from articles on therapeutics culled from various sources, and also a list of contributions to medical literature which have recently appeared. The journal is well printed on good paper.

THE LANCET.

LONDON: SATURDAY, APRIL 13, 1907.

Thomas Henry Wakley, F.R.C.S. Eng. In Memoriam.

THE personal sorrow which those who are immediately connected with THE LANCET are feeling at the death of their venerable senior editor will appeal to the sympathy of our readers all the world over. Under the dispensing will of Providence the directing hand of the oldest of our councillors is for ever at rest. We do not intend, either here, or in the more detailed biographical notice which will be found in another column, to speak at any great length of him whose long, active, and useful career has just been closed by death, but we consider it appropriate to say a few words respecting the late senior editor of THE LANCET beyond what is merely biographical.

It is natural that at this moment we should look back some 20 years when the death of JAMES GOODCHILD WAKLEY, THOMAS WAKLEY'S youngest brother but predecessor in our editorial chair, occurred; and it is interesting to see how extremely appropriate the words then written under THOMAS WAKLEY'S direction concerning his brother are applicable to himself. The brothers had great community of personal characteristics and temperament, although their preliminary education differed widely. The life-work of each as far as it was connected with THE LANCET was very similar, the parallel having originated in the fact that each regarded his position as editor of THE LANCET as a heritage from the father who founded the paper, and each conducted the paper with the same broad objects in view. "The unsparing rod wielded by his father against all enemies, and the sometimes too great admiration extended by his father to attached friends—extremes which are so commonly marked in men of the most powerful order—were extremes unknown to him," was written of JAMES WAKLEY, and is absolutely applicable to THOMAS WAKLEY. The following sentence is equally true in description of either: "He did not write much himself, but he was skilful and keen in discovering men who could write, and what they could write; and he read every line that was written by his staff in which there was anything controversial with the most scrupulous nicety and supervision. He was bold in exposing evils of a general or public character; hearty in helping forward every public advancement; zealous to make THE LANCET the first chronicler of any new and promising progress in the science and art of medicine; and especially anxious to make it useful in works which were of a sound philanthropical and beneficent nature." It would not be possible to describe the journalistic attitude of him whose death we are now mourning more accurately.

No one occupying an important public post and exerting through it a daily living influence on the profession of medicine was ever more retiring from professional social life than the late THOMAS WAKLEY. On succeeding to the editorial chair he seems to have felt that the only way to preserve the unbiased judgment necessary for a right apprehension of the pros and cons of professional questions was to be as far as possible removed from personal conflicts himself. His father, the founder of THE LANCET, was essentially a public man; as politician, journalist, and public official he was welcome in all circles and enjoyed to the full the variety of a far-extending society, despite the manifold duties appertaining to his busy and complex career. THOMAS WAKLEY, the son, was totally different. His aim was ever to keep in the background, to subordinate himself to his public duty, as he conceived it, and to allow no extraneous influence of any sort to warp his judgment or deflect his just sympathies. He believed that in this way he could best serve his generation by means of THE LANCET, for as his father and his brother loved their journal, so did THOMAS WAKLEY love it. He lived for it and for the promotion of the causes which it advocated, and in a curiously exact way the journal walked hand in hand with him throughout his career. He was born almost contemporaneously with the first issue of the paper; while he was passing through the stress and excitements of boyhood the passionate proceedings of THE LANCET in the heyday of its youth were attracting the notice of the medical and legal professions. Early middle age found THOMAS WAKLEY an established success as a consulting surgeon, while the position of THE LANCET was at length secure, its wild oats having been sown; by the time that it fell to his lot to direct our councils he was well advanced in life, of set habits and opinions, while THE LANCET had a long career of useful work behind it and a definite place in the professional counsels of the country. The feeling that THE LANCET had grown up with him was always strong upon him, and increased his sense of responsibility for its conduct. He gave all his energies to the discharge of the task, and allowed no private influences to interfere between him and his sense of justice—and whatever eulogy we might add we could not draw a better picture of the man and his grasp of his duties.

The Goulstonian Lectures.

THE widespread disturbances of function resulting from acute toxic or infective conditions of the nervous system are well known to clinical observers and have long been recognised by them, but the knowledge of the underlying anatomical or structural changes is of much more recent acquisition and is less generally current. Modern histological research on the normal structure of the central and peripheral nervous system has resulted in the discovery of methods which have proved fruitful subsequently when applied to the investigation of morbid conditions of those organs. The methods are in many cases complex and the results obtained by them have been in the past difficult to interpret; indeed, even at the present time there are differences of opinion as to how far the appearances observed are to be regarded as ante mortem, but the study of the *rationale* of these methods by histologists and neurologists has invested them with a real value and given them a definite significance. Dr. E. FARQUHAR BUZZARD is to be congratulated on having availed himself of the opportunity afforded him by the delivery of the Goulstonian lectures before the Royal College of Physicians of London to draw attention to these matters and to bring forward his own work on the subject. In these lectures, which have already appeared in our columns,[1] he has carefully analysed the pathological features of certain selected conditions of acute paralysis of widespread distribution, and presumably of toxic or infective origin, and in so doing has made a useful *résumé* of the main facts known in regard to the pathology of those diseases; while by his own observations he has brought forward valuable information regarding obscure points in connexion with them.

His first lecture was largely devoted to a general consideration of the effects upon the structures of the nervous system, especially those subserving motor functions, of various toxic agents, including some which apparently have a specific affinity for these structures and others for purposes of comparison or control of more general and widespread activity. The motor cells comprising the large pyramidal or "Betz" cells of the motor region of the cortex cerebri, the cells of the anterior horn of the spinal cord, of the motor cranial nerves, and of the nucleus ambiguus, all belonging to the so-called "stichochrome" class, have been studied by many observers in various abnormal states by the agency of the method of Nissl, which is that almost universally employed for the purpose. It depends upon the selective activities of certain basic aniline dyes and demonstrates that these cells present two separate substances—one basophile, called the chromatic substance, found in the nucleolus, the nuclear membrane, and in the form of certain masses in the protoplasm of the cell body and its dendrites, to which the name of Nissl bodies has been applied; the other substance is non-basophile and is therefore called achromatic. This substance is regarded by various observers as pervading the cell body and the axis-cylinder process in the form of a fine granular network, the meshes of which inclose the Nissl bodies. In the normal cell of the stichochrome class the general outline of the cell is polygonal with concave borders between the bases of its processes, the nucleus is of rounded form and usually centrally placed, the nucleolus being in turn situated at its centre, while the Nissl bodies are usually arranged along pericentric lines—that is, lines more or less parallel with the borders of the cell. This method applied to the study of the cellular changes produced by various abnormal states or conditions has shown that those resulting from toxins are very similar to, if not indistinguishable from, those resulting from other influences, such as high temperatures, artificial anæmia, and great cellular activity; moreover, the so-called "axonal reaction"—that is, the alteration in the cell consequent on injury or degenerative conditions of its axis-cylinder process—closely resembles the changes induced primarily in the cell by toxic agents. The problems involved, therefore, in elucidating the effects of such agents are obviously complex and require careful unravelling.

In describing the acute toxic changes in these cells Dr. BUZZARD recognises three types: early forms in which the cell is little altered in shape, but in which the chromatin granules or Nissl bodies are breaking into fine particles especially around the nucleus or near the periphery of the cell, changes which are described as perinuclear and peripheral chromatolysis respectively. In another form of early change the cell is somewhat swollen and the whole cell body stains more deeply owing to the fragmentation of the chromatin particles and to the achromatic substance becoming more susceptible to the stain. In the second variety of change, referred to as the moderate type, the cell is round and swollen, the nucleus is no longer central, and there is complete, or almost complete, chromatolysis. In the third, or advanced, type the cell is globular in shape, of homogeneous or vitreous appearance, and the nucleus is either near the surface, or actually extruded from the protoplasm, while in another form of this type, the cell having retained something of its original shape, is, together with the nucleus, uniformly lustreless, the nucleolus alone being distinguishable. The general conclusions arrived at are that the histological appearances observed are not distinct from those obtained in other conditions and that no poison exerts a change which is recognisably different from that evoked by other poisons.

For the study of early changes in nerve fibres the Marchi method or the "Busch" modification of it is usually employed, and Dr. BUZZARD describes two different conditions as occurring in acute toxic states—the first practically indistinguishable from the well-known Wallerian degeneration but not necessarily secondary to changes in the corresponding cells; the second the appearance of numerous fine rounded drops of fat or rather of material stained by the Marchi process in the white fibres of the central nervous system or in the peripheral nerves. These droplets usually lie within the myelin sheath but are seldom large enough to occupy more than half of the transverse diameter of the fibre. This second form, which he has observed in toxic states of all kinds, Dr. BUZZARD regards as a fatty degeneration of the myelin sheath analogous to the fatty change found in other organs in toxic conditions. For purposes of comparison he has studied the condition of the nervous tissues and of the muscles in 13 cases of general toxæmia in which paralysis was not

[1] THE LANCET, March 16th (p. 705), 23rd (p. 785), and 30th, 1907 (p. 863).

observed, such as ptomaine poisoning and septicæmia in association with erysipelas, acute periostitis, and extensive burns, and he found in eight out of the 13 that early changes occurred in the Betz cells of the cortex, though no changes were observed in the cells of the medulla and cord. This greater susceptibility of the more highly evolved cells to toxic influences is noteworthy and of interest, as Dr. BUZZARD points out, in connexion with the easily produced exhaustion after voluntary effort familiar in association with toxæmic states. In regard to changes observed in the nerve fibres in these cases the diffuse fatty myelin change was frequently observed, while the Wallerian type was observed only once and then of slight degree.

The second lecture was entirely devoted to a consideration of the disease usually known as infantile spinal paralysis, for which Dr. BUZZARD prefers the title of "acute poliomyelitis." The pathological histology and pathogenesis of the condition were carefully described and illustrated by the appearances observed in three fatal early cases. The most widespread and constant changes are congestion of the blood-vessels and an intense cellular infiltration of their walls, the veins and the capillaries showing the greatest degree of infiltration. These cells are for the most part mononuclear and their origin is still a matter of dispute, but they are probably chiefly derived from cells existing in the walls of the vessels; at any rate, there is no evidence of their neuroglial origin. Round-celled infiltration of similar character occurs in the meninges, especially over the lower part of the cord and on its anterior aspect. There are also masses of cells scattered more or less irregularly through the grey matter, particularly in the anterior horns but not confined to them; these masses Dr. BUZZARD regards as probably due to neuroglial proliferation and lymphocytic infiltration. The ganglion cells of the anterior horn, of Clarke's column and of the posterior horn all suffer in varying degrees, the general but not invariable rule being that those cells most closely involved in the inflammatory exudation show the most marked changes, these varying from early chromatolysis to a condition in which it is difficult to detect the outline of the cell. In discussing the pathogenesis of the disease in the light of his own observations and those of other writers Dr. BUZZARD rejects the old view that it is the result of a primary degeneration of the anterior horn cells with secondary changes in the interstitial tissues and also the so-called "vascular" theory—viz., that it is due to primary thrombosis of the vessels of the cord—and concludes that the process is inflammatory and is probably due to some micro-organism or its toxin, circulating in the blood (but possibly in the lymph). He further concludes that the same morbid process underlies some cases of encephalitis, both of the brain stem and the cerebrum, including probably many examples of infantile hemiplegia.

The third lecture was devoted to a study of acute ascending myelitis, of Landry's paralysis, and of acute toxic polyneuritis. The first of these is regarded as an acute infective disease, not of specific character, and produced by various micro-organisms. Evidence was offered in support of the view that this bacterial infection affects the lymphatic system of the spinal cord. In three cases of Landry's paralysis practically the only change observed apart from diffuse myelin degeneration in the white matter of the cord and in the peripheral nerves was in the ganglion cells of the spinal cord, which showed early pericentral chromatolysis. From a study of the bacteriological and pathological observation so far on record this disease is to be regarded as "possibly a species of spinal lymphatic intoxication." The condition of acute toxic polyneuritis is one which offers some difficulty in diagnosis from Landry's paralysis. It is less often fatal, but in such cases the lesions have been found to be limited to the lower motor neuron, or to the lower motor and sensory neurons, and are probably parenchymatous degenerations of those structures produced by a toxæmia.

Death Certification and Amendment of the Coroners Acts.

WE referred recently[1] to the proposals set before the Lord Chancellor by a deputation from the London County Council and the Medico-Legal Society. It is of interest to consider somewhat closely the bearing of the proposed changes upon general medical practice in connexion with a more detailed account of the deputation (see p. 1034). One of the most important suggestions for amending the Coroners Acts is that which insists that the medical certificate shall show the fact of death as well as its cause and should vouch for the identity of the deceased. This means that the medical man who signs the certificate of death shall also visit the body after death, so as to be able to state not only that the death has occurred but that the body is that of the person named. In some cases this practice of identification may mean a long journey, and who is to pay for this? At present the death certificate is given by the medical attendant without charge, but it cannot be expected that he shall pay the compulsory visit of identification for nothing. Who is to pay for this visit, the friends of the deceased or the State? At the very low estimate of 1*s.* per inspection the sum would amount (it is calculated) to about £20,000 a year, whilst if the fee is made equal to that given for the compulsory notification of infectious disease the cost would be two and a half times as much, or a matter of £50,000 a year. Anyhow, the prospect of so large a sum of money being paid out of public funds might make the Government hesitate before proceeding with the measure, unless the usual attempt is made to secure gratuitous medical service.

The section providing that independent medical men should be appointed to assist the coroner in preliminary inquiries, in scrutinising the causes of death, and in making post-mortem examination is a very radical change, one that is chiefly if not solely necessitated by the preponderating number of purely legal coroners and by the imperfect qualifications of their subordinate officers. The dangerous habit of certain coroners of dispensing with medical evidence has been frequently commented on in our columns. Granted that the existing law requires alteration, there is no excuse for coroners breaking the law, while in many recorded instances the absence of medical evidence has been a direct menace to the public safety. In numberless cases it is the practitioner

[1] THE LANCET, March 30th, 1907, p. 900.

in attendance on the deceased who can alone complete the story. His place as a witness cannot be taken by an independent medical investigator who never saw the deceased in the flesh. Such a witness can only help the non-medical coroner to appreciate rightly the evidence of the practitioner. In the public interest the account of the cause of death, and if necessary of the result of the post-mortem examination, should be exact and true, and if, as the petitioners recommend, "the records of all such inquests should be public property," it would be well that they should be made by an independent and specially competent person. Medical practitioners, who not unfrequently suffer from the ignorance of the coroner as well as of the jury of the elements of medical science, would welcome the innovation. The cost of the independent medical assessors would, of course, be borne by the county, and the provision as to the number and the emoluments of these special referees would be made by grouping towns and country districts together. The proportion of uncertified to total deaths varies from 1·2 per cent. in London to 8·5 per cent. in North Wales, and to 42 per cent. in Inverness-shire—a proportion which caused great astonishment even to the Lord Chancellor. No doubt the large percentage of 42 is due, as was explained, to the scattered population, but whatever difficulty exists ought to be grappled with and remedied, for there can be no doubt that the possibility of burial without due certification and registration does actually exist.

The recommendation of the Medico-Legal Society put forward by the deputation—that there should be mortuaries with proper equipment for thorough investigation into the causes of death—is so manifestly sensible that there can only be surprise that at the present day it is necessary to call attention to such a want. Recent research in morbid anatomy and bacteriology has made it essential that the mortuary of the future must be properly equipped. Whilst agreeing with most of the recommendations and views placed before the Lord Chancellor in excellently plain terms we must again call attention to the difficulties that would attend the carrying out of regulations as to medical assessors or independent investigators. The words of the recommendation are, "That medical investigators should be appointed to inquire into the causes of all uncertified deaths." It must be remembered that an uncertified death does not necessarily mean that the deceased has died without any medical attendance, and due provision must be made for securing the attendance and the payment of the medical man who may have looked after the deceased during the last illness. It may fall to him to make the post-mortem examination himself, while if the case resolves itself into one of, say, unusual poisoning where special assistance is necessary, he should be summoned to the aid of the official medical investigator. But we may hope that there will be a quick response to the urgency of correct registration of the real causes of death and of actual inspection of the body by the person who signs the certificate. The public as well as the medical profession is in a state of uncertainty because of the conviction that things are at present in a state of confusion. A movement for reform is now backed up by medical concurrence, for the most part well considered, and we may reasonably expect action to follow.

Annotations.

"Ne quid nimis."

LORD LISTER'S EIGHTIETH BIRTHDAY.

Lord Lister's eightieth birthday, which fell on Friday last, April 5th, was the occasion of his receiving congratulatory letters and addresses from all parts of the world. To this universal tribute the congratulations of THE LANCET may be very sincerely added. A meeting was held at the Royal College of Surgeons of England on April 4th, under the chairmanship of Mr. Henry Morris, the President of the College, with the object of deciding upon a means of celebrating the anniversary. Our readers are aware that the decision had already been arrived at by the committee appointed to make a fitting recognition of the anniversary to republish Lord Lister's works. The following gentlemen were appointed as an editorial committee: Sir Hector C. Cameron, Mr. W. Watson Cheyne, Mr. Rickman J. Godlee, Dr. Dawson Williams, and Dr. C. J. Martin. It was also agreed to preface the volumes with a sketch of Lord Lister's scientific work, so that the various steps in his discoveries may be rightly appreciated. This sketch is to be in no sense a biography of the man, but is to represent his work in due sequence, so that the reader may understand the development of the doctrines which led to the revolution of surgery.

CANNED MEATS AND "PTOMAINE" POISONING.

IN connexion with the American "packing-house scandals," which received so much public attention last year, questions have been raised as to the risk which is entailed by eating canned meat which, before being cooked, has been exposed to uncleanly conditions leading to contamination by the "meat poisoning" bacteria. It is sometimes represented that the objection to such foods may be well founded on wholesome sentiment, but is not strongly supported by evidence of actual poisoning. This view appears to be based mainly on three considerations: 1. Cases of poisoning due to canned meat foods do not often come to the notice of medical officers of health or sanitary authorities. 2. In well-known outbreaks of poisoning by prepared meat such as the Mansfield "potted meat" and the Derby pork-pie epidemics, the food in question has not been canned, and apparently the contamination of the meat has taken place after cooking. The illness which has resulted has been due, principally at all events, to infection by living bacteria of one or another kind, especially the bacillus enteritidis of Gaertner, and the symptoms of poisoning in most cases have appeared only after a definite incubation period during which the bacilli have multiplied within the body of the patient. 3. Canned meat foods have nearly always been subjected to a high temperature for a period sufficient to kill the bacteria in question. These facts can readily be admitted, but they by no means justify the conclusion sought to be drawn from them. It is obvious that the effects of a batch of contaminated canned meats could never be traced in the same way as a batch of pork pies which have all to be consumed within a few days of being made, and mainly by persons living in a few localities. The canned-meat poisoning, when due to toxin and not to living bacteria, produces symptoms which come on within a few hours at most and in all but the severest cases pass off comparatively quickly as the toxin becomes eliminated. Milder cases probably often do not come under medical treatment at all, while medical practitioners who see isolated instances of "ptomaine" poisoning are under no obligation to report them to the sanitary

authority and seldom do so. A good example of the advantage which may sometimes be gained by timely intimation to the medical officer of health of cases of this kind appears in the annual report for 1906 of Dr. G. Arbuckle Brown, the medical officer of health of Partick, who gives a detailed account of a case of tinned meat poisoning which occurred last year in that burgh in circumstances specially favourable for investigation. The inculpated tin was a large one and contained about four pounds of ox beef manufactured by a Chicago firm. It was opened by a Partick provision dealer who was in the habit of selling canned beef in small quantities, about a quarter of a pound at a time, to customers of the poorer class. The beef was turned out on to a plate provided with a cover, and portions of it were purchased on Saturday night, May 26th, or on the following Monday morning, by persons in five different households. Out of 19 persons constituting the five families as many as 12 were affected. In each family those who had not partaken of any of the suspected meat escaped, while those who partook of the meat, in some cases only in very small quantity, were attacked. The symptoms were mainly those of acute gastro-intestinal irritation. Within two or three hours, or less, of eating the meat the patients were attacked by severe abdominal pains, vomiting, and purging, together with, in some cases, severe prostration, collapse, and marked cyanosis. No fatal case occurred, although for a time the condition of some of the sufferers was very grave. Recovery was rapid and apparently complete after two or three days in nearly all the cases. A house cat which had been given some of the meat also suffered from acute intestinal irritation. Fortunately a portion of the suspected meat remained at the purveyor's shop and was available for examination. No trace of metallic poison could be detected in it. The observations recorded by Dr. Brown appeared to negative the assumption that the meat became poisonous as a result of bacterial action after the tin was opened. Having regard to the rapid onset of symptoms, to the absence of anything like an incubation period in any of the cases, and to the rapidity of recovery, it seemed that the poison must have been already present in the meat at the time of ingestion, and probably existed as a toxin of bacterial origin. The matter was put to further trial by testing the agglutinating action of the blood of eight of the patients on a stock culture of Gaertner's bacillus. In all cases a strong reaction (20 to 30 minutes with dilutions between 1 in 30 and 1 in 60) was obtained. Bacteriological examination of the meat did not reveal any evidence of the presence of living Gaertner's bacillus. It is known, however, that cultures of this bacillus may be killed by heat but yet remain poisonous in consequence of the endotoxin they contain, and Dr. Brown on review of the agglutination tests and of the whole investigation points to the strong probability that in this case the meat, before being tinned, was infected by the Gaertner bacillus and that at the time of heating and sterilisation endotoxins were set free from the destruction of the bacilli, thus giving rise to immediate symptoms of poisoning on ingestion.

A CASE OF POISONING BY NITROBENZENE.

IN the *Boston Medical and Surgical Journal* of Feb. 14th Dr. John L. Ames records a case of poisoning by nitrobenzene. The patient, aged 47 years, drank from a bottle containing nitrobenzene thinking it to be sarsaparilla. It burned his throat and he immediately became ill. When taken into hospital he was cyanotic, the blue appearance of the skin and mucous membranes being very marked. The surface of the body was cold and the temperature was 97° F., the pulse was 130, weak and irregular, and the respiration was 30. The patient was semi-conscious and there was marked prostration. The blood was chocolate-coloured and very thick and viscid. A pint was withdrawn, in a thick tarry condition, by venesection and was replaced by normal saline solution. Stimulants, liquids, and oxygen were administered freely. He responded well to the treatment and began to improve after 12 hours. After two or three days cyanosis disappeared and the blood became normal. Poisoning by nitrobenzene is rare; the symptoms are similar to those of acetanilid poisoning, only they are more intense. The condition of the blood is one of methæmoglobinæmia. In the case under notice the urine was negative except for an increase in the urophene.

THE SMELL OF PAINT.

THE smell of paint occasions distress to a good many people and the spring-cleaning season, when it involves the painting as well as the cleaning of the house, is dreaded, not on account merely of its interfering with the ordinary comforts and conveniences of the home, but because also in not a few cases a distinct disturbance of health is threatened. Persons who are sensitive to the vapours of paint, or, what is the same thing, to the turpentine and oils contained in the paint, are well advised to resign their home until the drying influence of the air has dissipated the volatile oils. Turpentine, even in the form of vapour diluted with air, undoubtedly affects the health of some persons, the disturbance manifesting itself in the shape of giddiness, headache, deficient appetite, and anæmia—a typical case is recorded this week. There were headache, vomiting, swelling of the tonsil, albuminuria, and a marked rise in the temperature apparently due to an exposure to the emanations of wet paint for nearly a fortnight. That such a case should now and then arise is not surprising when regard is paid to the toxic effects which turpentine vapour is capable of setting up. Turpentine, in short, is a poison and cats and rabbits are so susceptible to its action that if kept exposed to its vapour for some minutes they exhibit marked toxic symptoms ending in death if they are not removed from the sphere of action of the vapour. Personal idiosyncrasy, however, is clearly an important factor, for many persons and probably the majority do not seem to be affected by turpentine vapour to any serious degree. A very sensible precaution during the painting season for those to take who are compelled to endure the nuisance is to leave bowls of water in the freshly painted rooms. Some, at any rate, of the paint emanations are thus absorbed, as will be seen by the oily film on the surface of the water so exposed. An even more powerful absorbent is fresh milk which reduces the smell of paint in a room in a remarkable way. The poisonous effects of paint emanations do not appear to be connected in any way with the lead contained in the paint, the colic of painters being due to the actual contact of the person with the substance of the paint.

THE BRITISH LEGATION AT TOKIO AND ITS MEDICAL OFFICER.

IN THE LANCET of Oct. 14th, 1905, p. 1119, we called attention to the fact that the medical officer to His Majesty's Legation at Tokio was not only a foreigner—namely, Dr. Wunsch of German nationality—but a medical man who did not possess a qualification registrable in Great Britain or Ireland. We pointed out that although any unregistered person could practise medicine in the British Empire, provided that he did not imply that he was registered, yet that an unregistered practitioner could not hold certain appointments and could not sign certain necessary certificates. We alluded to some correspondence which had passed between Mr. Sidney Gerald Gomes, F.R.C.S. Edin., a British subject practising in Tokio, and Sir Claude Macdonald, H.B.M. Minister, Tokio, in

which Sir Claude Macdonald excused the appointment of a foreigner by saying that he had been unable to find a British practitioner suitable for the post, and we further said that Dr. Wunsch's position was peculiar. Some 18 months have elapsed and the position, so far as we know, is unaltered. We now learn that the question will probably be raised in the House of Commons, and while we consider that an unregistered practitioner should not hold such a post as medical officer of an embassy we must not be taken to imply that Dr. Wunsch is in any way unfitted for the post so far as his professional knowledge is concerned. Whether it is right from a question of high politics that a foreigner should be practically a member of a staff under the British Foreign Office is not a matter upon which we have any knowledge to speak.

BAPTISM EXTRAORDINARY.

OUR Vienna correspondent forwards a story which many might be tempted to regard as a unique instance of religious bigotry. The circumstances were that at a hospital in Salzburg an operation had to be performed upon a woman in the third month of pregnancy. It was decided to induce abortion on account of eclampsia, but during the operation it was found necessary to remove the entire uterus. The nurse in attendance was a nun and she asked the surgeon to open the uterus before removing it and to baptise the fœtus. As the surgeon refused to do so she became very persistent, urging him to "abide by the laws of religion." At last an assistant made the ingenious suggestion that the baptismal water should be drawn up into a Pravaz syringe and then injected into the uterus, thus baptising the fœtus. This was accordingly done, the surgeon justifying his action by saying that "the conscience of the holy sister was thereby satisfied without anything being done to endanger the life or the prospects of the patient." A reference to a work that has long added to the gaiety of nations will prove that history has once more repeated itself, as witness these lines from the twentieth chapter of "The Life and Opinions of Tristram Shandy": "Madam, be pleased to ponder well the last line but one of the chapter where I take upon me to say, 'It was necessary I should be born before I was christened.' Had my mother, Madam, been a Papist, that consequence did not follow." And this statement the sly Sterne upholds in the following footnote: "The Romish Rituals direct the baptizing of the child, in cases of danger, before it is born; but upon this proviso, That some part or other of the child's body be seen by the baptizer:—But the Doctors of the Sorbonne, by a deliberation held amongst them, April 10th, 1733,—have enlarged the powers of the midwives by determining, That though no part of the child's body should appear,—that baptism shall, nevertheless be administered to it by injection,—*par le moyen d'une petite canulle*,—Anglicè *a squirt*.—'Tis very strange that St. Thomas Aquinas, who had so good a mechanical head, both for tying and untying the knots of school-divinity,—should, after so much pains bestowed upon this,—give up the point at last, as a second *La chose impossible*,—'Infantes in maternis uteris existentes (quoth St. Thomas!) baptizari possunt *nullo modo*.' O Thomas! Thomas!" The chapter finishes with a copy of the original French memoir presented to the reverend doctors by "un Chirurgien Accoucheur," and the weighty deliberations by which they felt themselves entitled to overturn the patristic authority. So scared, however, were these worthy prelates of a too hasty iconoclasm that they added this rider: "Cependent comme il s'agiroit, en autorisant la pratique proposée, de changer une règle universellement établie, le Conseil croit que celui qui consulte doit s'addresser à son évêque, et à qui il appartient de juger de l'utilité, et du danger du moyen proposé, et comme, sous le bon plaisir de l'évêque, le Conseil estime qu'il faudroit recourir au Pape, qui a le droit d'expliquer les règles de l'église, &c." It would be hard to discover a stranger concourse between religion and science and we can only hope that the evolution of modern thought will prevent the recurrence of a practice that appears equally discreditable to both.

ALCOHOL AND TRAFFIC ACCIDENTS.

THE recent occurrence of several railway catastrophes in which the fault has apparently lain with the human factor on whose integrity, however cunning be our mechanisms, we must in the last resort place our reliance, has drawn attention in a very forcible manner to the need of exercising a closer supervision than has hitherto been customary on the various conditions that may interfere with the nervous efficiency of persons in responsible charge of locomotive machinery. Of these conditions the use of alcohol is notoriously one of the most important, one of the most frequently operative, and one of the most controllable. Nowadays, with the high speed of railway travel and the increasing complexity of railroad systems, with the extension of the use of electric traction, and with the ever-growing numbers of motor omnibuses hurtling through our streets, the appalling risks that may accrue from the intoxication of an engine-driver or a chauffeur are too obvious to need mention. But what is not so clear to the public mind is that, even when its effects fall far short of overt drunkenness, a too free use of alcohol exercises an influence on nervous function which is sufficiently serious to make it very questionable whether it should be allowed in any circumstances to men while actually engaged in such avocations. The researches carried out by Kraepelin and his pupils, and published in the "Psychologische Studien" edited by that distinguished alienist,[1] confirmed as they have been by the investigations of other observers, have, in fact, conclusively shown that, at all events in a large proportion of individuals, even relatively small doses of alcohol diminish very materially the extent and the accuracy of visual perception. When, for instance, series of letters, figures, and syllables are exposed for short periods of time to the eye of an observer who endeavours to identify them, it is found that the errors, and still more the omissions, become much more numerous after the ingestion of even so moderate a quantity of alcohol as would be equivalent to little more than a pint of "four ale." With larger doses, of course, the disturbance of perception is proportionally more pronounced. When it is further borne in mind that, at the same time that it thus obscures the perceptions on which judgment is founded, alcohol also accelerates the motor impulses which translate that judgment into action, it is easy to see how much it may contribute, and doubtless very often has contributed, to the commission of fatal errors in the driving of an express train or a motor. With such evidence before us we need not incur the reproach of being teetotal faddists if we suggest that the drinking habits of chauffeurs and engine-drivers ought to be under stricter control, and that when the law requires that such persons shall not be under the influence of liquor, that time-honoured phrase should be interpreted in the sense of the experimental psychologist rather than in accord with the less exigent standard of the police constable. A correspondent whose communication has led us to make these remarks recognises that though the psychologist uses absolute alcohol in his experiments, yet he employs it in doses corresponding to those which the workman imbibes in his beer. We may conclude the consideration of a most important subject by quoting his own words. "In the

[1] Engelmann, Leipsic, 1896 et seq.

case of the drivers of motor omnibuses the question is particularly important, not only because the guidance of these monstrous machines through streets congested with traffic demands so constant an exercise of attention and judgment, but also because the chauffeurs under the new dispensation are necessarily influenced to some extent by the tradition of industrial drinking which flourished amongst their predecessors of the whip and which may still be fostered by the continuance of the practice of selecting public-houses for stopping places. In the interest of the public security it is not too much to demand that men while in the actual discharge of such responsible duties shall not be permitted to take alcoholic liquors. Nor should the approximate attainment of this ideal present any very great practical difficulty; engine drivers and chauffeurs already for the most part wear a distinctive dress and it would therefore be comparatively easy to make it a penal offence for a licence-holder to serve them with liquor while on duty." A similar prohibition applying to police constables in uniform was advocated in both the majority and the minority reports of the last Royal Commission on the licensing laws and the recommendation will no doubt be embodied in the Bill which is to be brought before Parliament this session. All that would be needed, therefore, to secure the measure of prohibition advocated by our correspondent would be to extend this clause so as to make it apply also to railway and motor drivers under similar conditions. The suggestion appears to us interesting and worthy of attention, but we think that more evidence than is at present under our hands connecting accidents in mechanical traffic with the drinking habits of the drivers must be forthcoming before any change in the law will be made.

POISONING BY CHEESE.

IT is only occasionally that cases of poisoning by cheese are recorded, which is, perhaps, somewhat remarkable considering how readily toxins develop in stale milk. The conclusion would seem to be justified that, on the whole, the manufacture of cheese is conducted with due regard to hygienic considerations. As far back as 1883 a toxic principle known as tyrotoxicon was separated from cheese which on being eaten had given rise to severe toxic symptoms. The same substance was extracted from stale acid milk. It proved to act as a violent poison, producing sickness, diarrhœa, and muscular spasms. There is little doubt, however, that similar symptoms had been traced to cheese long before the date that tyrotoxicon was recognised.[1] We published an article which appeared in THE LANCET of March 28th, 1829, under the heading of a "Case of Poisoning by Cheese," in which a whole family, consisting of a middle-aged man, his daughter, a girl aged ten years, and a female relative about 60 years of age, had been suddenly seized with symptoms of poisoning as violent colic pain, vomiting, diarrhœa, and tenesmus, within an hour of eating a cheese recently bought. Another family who had purchased cheese from the same shop were attacked in a similar way. In those days the methods of chemical analysis were necessarily less refined than they are at the present time; nevertheless an examination of the cheese and of the vomited matters led to the extraction, by means of alcohol, of a substance which, from the description given, was evidently identical with the toxic substance now known as tyrotoxicon. Since that date several instances of poisoning by cheese have been recorded and in every case a poisonous principle has been extracted which has proved to be identical with tyrotoxicon. We have occasionally examined specimens of cheese which were suspected to contain copper, but the presence of this metal proved on the whole to be rare, while in cheese which had occasioned irritant poisoning there was obtained an extract suspiciously like tyrotoxicon and which at any rate responded to the chemical tests which are regarded as characteristic of that substance.

[1] "Looking Back," THE LANCET, March 30th, p. 904.

THE AFTER-CARE ASSOCIATION FOR POOR PERSONS DISCHARGED RECOVERED FROM ASYLUMS FOR THE INSANE.

THE After-Care Association has recently issued its report for 1906. This report again illustrates the excellent work done by this society in finding work for and in other ways assisting poor persons who have recently been discharged recovered from asylums and mental hospitals. Experience has demonstrated that many patients discharged from asylums and hospitals for the insane are quite capable of work if suitable occupation be found for them, but are unable to stand the anxiety and strain of procuring it for themselves. During the year 1906, 308 applications (184 for women and 124 for men) for assistance were received, which again shows an increase compared with former years. The report states that of these "many have been assisted as in the past by being boarded out in cottages in the country, by grants of money or clothing, and by finding occupation or in other ways as the council has thought best." This association is almost entirely dependent upon annual subscriptions and donations for carrying on its useful and charitable work. Many persons have a relapse of their mental illness largely owing to the difficulty that they experience in finding occupation after a nervous breakdown, and efforts for restoring such individuals once again into the ranks of workers deserve every support, especially when we realise that it is the only charity of the kind in the United Kingdom. We note that contributions of clothing and money are gratefully received by the association secretary, Mr. H. Thornhill Roxby, Church House, Dean's Yard, Westminster, London, S.W.

DUST REMOVAL AND A DIFFICULTY.

THE Marylebone borough council in its endeavour to fulfil its duty by removing the dust and refuse from a house in the Marylebone-road has met with a difficulty of an unusual character. Two women occupy respectively the basement and the ground floor, and to one of them the accumulation of dust is apparently due, but each denies that she is responsible for it. This, it might be supposed, would scarcely be of great importance as the council's dustman would remove the dust with impartiality to whichever it might be said to belong. There are, however, two ways by which it can be carried out to the dustcart, the one passing through the basement and the other along the ground floor, and each woman refuses to permit the dustman to take through her passage refuse which, she says, is due to her neighbour, although the one living on the ground floor will allow him to enter. The solicitor acting for the borough council has applied for a warrant, to which he is entitled if he proves a "refusal or failure to admit" to premises from which refuse ought to be removed, but Mr. Plowden has declined to interfere on the ground that the refusal has been not to admit but to permit to pass out. The last time the subject was mentioned in his court he proposed to send a constable "to show himself at the door," in the hope presumably that the minatory presence of a police officer would induce one or both of the recalcitrant occupiers to give way, and he seemed seriously to be of the opinion that his powers ended there, although inclined to be jocular in criticising the situation generally. If the difficulty has arisen through the borough council having failed to attach responsibility for the dust upon either of the strong-minded ladies who have resisted it, we can understand a temporary failure on its part to

secure its object. We find it less easy to believe that Acts of Parliament and local by-laws which provide for the compulsory admission of scavengers or any other persons to places where it is desirable that they should go, do not thereby give them the power to pass out and complete the work for which they are admitted. Apart from the question arising out of the presence of two occupiers referred to above, Mr. Plowden can hardly mean that the ordinary householder can with safety admit the dustman to his premises and defeat the intention of the law by refusing to let him leave them carrying the dust. The *impasse* so created would resemble that suggested by the clergyman who, when he was told that the Prayer-book must be taken to forbid that which it did not in express terms order or permit, asked what then was to be done at a baptism, in regulating which the rubric directed him to "take the child into his hands" but said nothing about his giving it back. A divisional court should be able to solve the problem raised by Mr. Plowden's literal interpretation of the phrase employed should the point be brought before it by an appeal.

THE RELATION OF HOSPITALS TO THE EMPLOYERS' LIABILITY ACT.

IN the *Times* of April 8th an admirable letter appears from Mr. Michelli, secretary of the Seamen's Hospital, Greenwich, pointing out a way in which the new Workmen's Compensation Act may inflict a real injustice on our general hospitals. In repeating the substance of his letter we desire strongly to endorse his argument. It is quite obvious that all hospitals which treat accident cases have in the past restored to health quickly many injured working people who would otherwise have been for a prolonged period a charge upon employer or insurance company; it is equally certain that under the new Act the assistance thus rendered to the latter will be very materially increased and, at the expense of their supporters, the hospitals will save many thousands of pounds for employers of labour and insurance companies. Unfortunately, past experience has not shown that such impersonal, though none the less real, obligations are frequently taken to heart by those who should feel the responsibility of them, and the case upon which Mr. Michelli has based his letter shows no exception to the rule. It appears that a very large employer of labour in South-East London addressed an equally important insurance company suggesting that the latter should contribute to the Seamen's Hospital on the considerations that we have set down above. The appeal met with a flat refusal, based upon the ingenious argument that in fixing the premium to be paid by the firm "they had taken all existing circumstances into consideration"; this letter was written by order of the directors, who thereby tacitly acknowledged that in the conduct of their business affairs they considered themselves entitled virtually to appropriate a subsidy from the pockets of the charitable public. This begins ill enough, but worse remains behind, for—we quote Mr. Michelli's own words: "The hospitals will suffer most by the withdrawal of support that will follow the enforcement of the Act. Employers of labour who hitherto have contributed to the hospitals in recognition of services rendered to their employees are now notifying the withdrawal of their contributions, as they will have to provide for compensation under the Act, and they feel no longer any obligation (moral or otherwise) to support the hospitals." It would thus seem that the Act may prove a double-edged weapon to assail hospital treasuries, and it will tax the resources of secretaries and committees to guard against it if those who have power to wield it do not temper might with right. Fair play undoubtedly demands that each insurance company should pay towards the maintenance in hospital of men to whom compensation is due, for it is to meet medical and nursing expenses that such compensation goes when it is awarded to an individual who is treated in his own home. It will probably be a difficult task to get insurance companies as a whole to recognise the justice of this appeal, but something may be done by its being pointed out to individual members of their boards of directors, and this office we trust that some of our readers may, as opportunity occurs, take it upon themselves to carry out.

EPIDEMIC CEREBRO-SPINAL FEVER.

GLASGOW and Belfast continue to supply many cases of epidemic cerebro-spinal fever, but in most other localities where it has made its appearance the attacks are comparatively few. In London a recently published report by the medical officer of health of Stepney states that six cases have occurred in that borough during the last six weeks and that four of them have terminated fatally. Cases have also been reported at Salford in Lancashire, at Hanley and Tipton in Staffordshire, and at Oldbury in Worcestershire. In Glasgow there have been 61 deaths from the disease during the fortnight ended April 3rd, and on that day there were 110 cases under treatment. Cases have also been reported in Edinburgh, in Kilmarnock, in Dunfermline, and at various places in Aberdeenshire and Banffshire. In Belfast eight deaths occurred during the week ended April 3rd and on that day 40 patients were under treatment. On April 3rd the medical officer of health of Dublin stated that there had been no case of the disease in that city for a fortnight and that the total number in two months had been only 18.

CHILDREN'S SIGHT AND SPECTACLES.

AT a recent meeting of the subscribers to the Bristol Eye Hospital attention was called in the report to the amount of time devoted by the staff to the work of testing the eyes of school children, a work from which the committee desired to see its officers relieved. The publicity given to this desire has called forth a letter to the local papers from a correspondent named Dunscombe, who is possibly an optician, and who informs his readers that "none of the work complained of need go to the hospital; it is the work of the optician, and Bristol has qualified opticians capable of testing and correcting defects in vision, who would send all cases of disease and abnormality to the hospital, or an oculist, according to the circumstances of the person." It is difficult to imagine that this statement proceeds, as we would fain suppose, from honest ignorance. In children's eyes, especially in the large class which are tending to pass from hypermetropia into myopia, it is hardly possible to draw any line between disease and mere malformation; and the treatment required by the former has constantly to be combined with the optical aids called for by the latter. The attempt of opticians to obtain recognition of themselves, either from Parliament or by charter from the Privy Council, as persons qualified to "test sight," has so far failed; and it called forth from the General Medical Council an emphatic denial of the justice or validity of the claim. That body, in its report to the Privy Council on the subject, pointed out that "the admission of the petitioning opticians that 'where defective vision is due to other than optical conditions it should be treated by a duly qualified medical practitioner' was fatal to the rest of their contention, not only because, as a matter of fact, optical defects and diseased conditions constantly overlap and complicate each other but also because the latter cannot be either certainly recognised or certainly excluded by any but a medical practitioner." The natural corollary of the admission

would, indeed, be that no "optician" should be permitted to treat an "optical" defect until a certificate had been obtained from a medical practitioner that the defect in question was neither increased nor complicated by disease. This is, in reality, the last word to be said upon the question; unless it be that, upon the whole, it would probably be better for a child to be left to struggle with his or her visual difficulties unaided than that the correction of the defects by which these difficulties are produced should be committed to the hands of anyone incapable of dealing with them by the light of scientific and pathological knowledge.

A SIMPLE TEST OF THE PURITY OF CHLOROFORM.

CHLOROFORM is so easily decomposed by the action of air, light, and moisture that it is important for the surgeon to be able to verify its purity for himself. The decomposition of chloroform is always accompanied by the production of hydrochloric acid, but in the early stages of decomposition the presence of minute traces of the acid is not always detectable by silver nitrate. In a recent number of the *Comptes Rendus* M. Breteau and M. Woog have described a simple test of the purity of chloroform. A small cylinder of elder pith is dyed in a saturated solution of Congo red in absolute alcohol and placed in the chloroform. If decomposition has only just begun this indicator serves to detect it by changing rapidly in colour from bright red to blue, owing to the presence of hydrochloric acid among the products of decomposition. We have tried this method and have found it to be extremely delicate. It can be recommended as an automatic indicator of the purity of chloroform, whether kept in a midwifery bag or on the shelves in a surgery. By dyeing the pith the chloroform does not undergo contamination with the colouring matter. A piece of the dyed pith should be put into a bottle of chloroform when it is first opened and kept there until the bottle is empty. It can be used over and over again so long as it remains bright red in colour. M. Breteau and M. Woog call attention to the danger of inclosing chloroform in ampoules or sealed glass bulbs, owing to the decomposition of traces of chloroform around the point where the glass is sealed. Each ampoule, they consider, should contain a minute plug of dyed elder pith in the glass stem to indicate the condition of the chloroform when it is required for use. The impurities may be removed by distilling the chloroform over lime or by shaking with caustic soda solution.

TUBERCULOUS MENINGITIS WITHOUT TUBERCLES.

AT a meeting of the Société Médicale des Hôpitaux of Paris on March 15th M. A. Siredey and M. Tinel called attention to the fact that although tubercles of various forms anatomically characterise tuberculosis, yet in some cases they are absent. This is especially true of the tuberculosis of the central nervous system. Armand Delille has shown that the classical symptoms of tuberculous meningitis may be present and yet tuberculous granulations of the meninges may be absent. A diffuse bacillary infiltration, and even the tuberculous toxins, may provoke tuberculous meningitis. Though these facts are well known to experimental pathologists they often cause surprise to practitioners. Hence the interest of the following case. A boy, aged 16 years, was admitted into hospital comatose on Oct. 31st, 1906. He had been ill for a fortnight with headache and vomiting and gradually became comatose. Rigidity of the neck, photophobia, wasting, mydriasis, irregularity of the pulse, the meningeal streak, Kernig's sign, and lesions at the apices of the lungs left no doubt as to the diagnosis of tuberculous meningitis. Lumbar puncture showed marked lymphocytosis of the cerebro-spinal fluid and some polynuclear cells. The case ran the ordinary course and death occurred on Nov. 11th. At the necropsy the most minute examination failed to show any tubercles on the meninges or in the cerebral cortex. To the naked eye the changes consisted in an intense congestion of the nervous centres of which the vessels were much distended. The meninges had lost their transparency and at several points showed a slight thickening with a milky tint, little pronounced. The meninges could be raised without tearing the adjacent cerebral substance. The subarachnoid space and the ventricles contained a notable quantity of liquid. The lungs showed diffuse tuberculous lesions, large granulations of the size of a lentil confluent in some places, disseminated in others. Microscopic examinations revealed numerous tubercle bacilli in these granulations. To the naked eye the kidneys showed nothing abnormal but the microscope disclosed little tuberculous nodules. Microscopic examination of the meninges showed a diffuse leucocytic infiltration without any tuberculous granulations. In some places the cells were agglomerated into little nodules, but nowhere was there a definite tubercle. The cases exactly corresponded to the type described by Delille as "diffuse leucocytic infiltration, predominantly perivascular, and with tendency to nodules." In no preparations could giant cells or caseous degeneration be seen—nothing suggestive of formation of tubercles. But a large number of tubercle bacilli was disseminated wherever there was leucocytic infiltration of the membranes. They were especially grouped around the blood-vessels, forming in certain places little agglomerations without modification in the form or grouping of the neighbouring cells.

PATENTS FOR CHEMICAL INVENTIONS.

IT was recently pointed out in the columns of THE LANCET[1] by a legal contributor that it is possible in this country to obtain patent rights in perfectly well-known chemical processes for the production of medicinal compounds. For example, a patent was granted last year in respect of the manufacture of eserine sulphite by the action of sulphurous acid on the alkaloid, although that process had been known for many years and is the one which any chemist would naturally use. The fault has been that the Comptroller of Patents, while compelled by the Patents Act of 1902 to have the records of previous specifications searched when a patent is applied for, has had no power to entertain an objection on the ground of want of novelty unless the process has actually been anticipated in a prior patent specification. This defect of the law will be remedied if the Patents and Designs Bill, introduced in the House of Commons by the President of the Board of Trade, is passed in its present form by Parliament. Clause 6 of the Bill enlarges the grounds of opposition to the grant of a patent by providing that an application may be opposed before the Comptroller on the ground "that the invention has been published in this country prior to the date which the patent would bear if granted." The Bill also contains a clause giving the Comptroller powers to demand the submission of samples in the case of patents for chemical inventions. The necessity for this clause has arisen from the fact that in the past some patentees have framed their specifications in such a way as to secure proprietary rights in whole classes of imaginary chemical processes and have not tried to make all the substances covered by the specifications. Trouble has subsequently arisen when real inventors have found their inventions shut out by one of these roving prior claims. So far as Mr. Lloyd-George's Bill tends to prevent the unfair assumption of

[1] THE LANCET, Nov. 17th, 1906, p. 1390.

proprietary rights in chemical processes and products which are of medicinal value, it will command the approval of the medical profession. The Bill does not affect so-called "patent medicines," which are rarely made under Letters Patent, but it may reduce to some extent the number of proprietary foreign-made synthetic remedies with which the drug market in this country is flooded at the present time.

THE next meeting of the Northern and Midland division of the Medico-Psychological Association of Great Britain and Ireland will be held, by the courtesy of Mr. F. Perceval, at the Lancashire County Asylum, Prestwich, near Manchester, on Thursday, April 18th, at 2.30 P.M. Dr. Bedford Pierce of York is the honorary secretary of the division and communications should be made to him.

His Grace the Duke of Northumberland, K.G., President, is to preside at the annual dinner of the Royal Sanitary Institute to be held at the Langham Hotel, London, on Wednesday, May 15th.

DEATH CERTIFICATION AND THE AMENDMENT OF THE CORONERS ACTS.

IN our issue of March 30th we mentioned that the Lord Chancellor had received a deputation from the London County Council and the Medico-Legal Society. Mr. H. T. Anstruther, chairman of the London County Council Public Control Committee, represented the former body, and Sir William Collins, M.P., a former President of the Medico-Legal Society, represented the latter. We now print below the abstract of recommendations handed in to the Lord Chancellor by Mr. Anstruther, and the speech upon the points in question delivered by Sir William Collins, and we comment upon the proceedings in a leading article which appears at p. 1027 :—

MR. ANSTRUTHER'S REPORT.

Notes on Council's Resolutions of 30th October, 1906.

Deputations from the Council attended before previous Lord Chancellors upon this subject in February, 1895, and November, 1896. On the first occasion Sir G. Harris and Dr. (now Sir William) Collins addressed Lord Herschell. On the second occasion Mr. Haydon and Dr. Collins addressed Lord Halsbury. The Council has had ample opportunity for obtaining a knowledge of the subject. It is the only local authority in London with any jurisdiction in connexion with the holding of inquests. With certain exceptions, applying to about one-twentieth of the London area, the appointment of London coroners is vested in the Council. Their salaries and other inquest expenses are paid by the Council, and the Council has to provide coroners' courts and arrange coroners' districts. These important functions have been carried out for 18 years, and the relation of these questions to the needs of London to-day as compared with the position in 1889 when the Council was first charged by Parliament with the duties, show that the Council's proposals are founded on experience. They are also based on an examination of admittedly better conditions and systems prevailing elsewhere.

Notes on the Earlier Recommendations.

The Council has linked this subject with that of *death certification*. It is almost impossible to separate them and the Council in its conclusions has been largely assisted by the labours of the Death Certification Committee of the House of Commons of 1893. With the recommendations of that Committee the Council is in general agreement, and has incorporated in its scheme such of the recommendations as appear to bear directly upon the question of coroners' inquests. The report of the Inter-departmental Committee on Physical Deterioration also included one or two valuable suggestions having a connexion with coroners' inquests, and these have also been embodied in the Council's proposals. It has been suggested that there should be a dual relegation of duties in connexion with death certification: one to the registrar as at present but merely for the collation of vital statistics: the other to the coroner who should have cognisance of all deaths and himself select those needing inquiry. The Council has not felt justified in advancing this view but it seems only fitting to refer to it. There is no doubt that the machinery which should insure notice to the coroner of the cases contemplated by the statute is very imperfect, and there is a strong suspicion founded upon very substantial grounds that many cases escape notice which, if they had been notified, would assuredly have formed the subject of an inquest.

Notes on Individual Recommendations.

Recommendation 9.—When a proper medical certificate is wanting, the medical man concerned, or the relations and friends of the deceased, should be required to report the case direct to the coroner. It appears clear that every such case should, without delay, come under the cognisance of the coroner.

Recommendation 10 deals with cases of death after surgical operation. Both in the interests of the public and medical profession, such cases should automatically come to the notice of the coroner, though, of course, not necessarily with a view to an inquest being held in all such cases.

Recommendation 11 is perhaps the most important of the Council's recommendations—viz., that medical investigators should be appointed to inquire into the cause of all uncertified deaths. The medical investigator the Council has in contemplation would be a highly qualified medical man, skilled in pathological work, and having no personal interests in private practice. One of the chief defects of the present system is in connexion with the preliminary inquiry, upon which depends the coroner's decision as to whether or not an inquest should be held. Legally speaking, the decision rests with the coroner, but in London at least, the cases reported to the coroner are so many that the collection of the facts upon which the coroner arrives at his decision is made by the coroner's officer, who is usually a police constable, and is also an officer unknown to the law. It is no exaggeration to say that these men are entirely without qualification for so important a duty.

When the Council first dealt with this work it had to take very strong measures with regard to certain of the coroners' officers, against whom the gravest irregularities were charged and proved. This fact is an additional argument for the assumption that in the preliminary work the coroner should have the assistance of skilled professional gentlemen, whose probity would be above question. The present medical assistance on which a coroner can count without reference to the authority which checks his disbursements is very restricted. Sections 21 and 22 of the Coroners Act of 1887, which deal with medical witnesses and their fees, are virtually a repetition of powers first provided in an Act of William IV. passed in 1836. The provision that may have met the needs of that time is now quite inadequate. Moreover, a coroner can only avail himself of it after the commencement of inquest proceedings, and never as an assistance in deciding whether or not an inquest is necessary. Even then it fails to insure that the medical assistance shall be sufficient for the coroner's purposes.

The Council has already had experience of a better system. It cannot authorise the spending of money in medical fees beyond the amounts prescribed in the Coroners Act of 1887, but a number of highly qualified medical gentlemen attached to London hospitals and skilled in pathological work have undertaken to carry out post-mortem examinations in special cases at the ordinary fees. A panel has been formed of their names, so that London coroners may, in cases of difficulty, avail themselves of this valuable assistance. The experiment is, however, unequal in its application, incapable of application to the necessities of London as a whole, and only of assistance to the coroner when he has decided to hold an inquest. It does not assist him in the detection of cases that call for inquiry where there may be reason to suppose that the relatives of the deceased, and possibly in some cases the medical attendant, may wish to avoid publicity. Yet if the coroners' work is to be a reality (and not a sham) it is obvious that all cases should receive competent investigation and that the preliminary stages of inquiry are as important as open court proceedings.

SIR WILLIAM COLLINS said: My Lord, on the two previous occasions, to which allusion has been made by Mr. Anstruther, I have had the honour of voicing deputations to your lordship's noble predecessors on behalf of the London County Council; on this occasion, while generally endorsing the views which have just been laid before your lordship, I appear on behalf of the Medico-Legal Society, as a former president of that society. The Medico-Legal Society was established "to promote the advancement of medico-legal knowledge in all its branches." As a learned society it usually restricts its operations to debate and the discussion of papers, but it felt so strongly on the question now under consideration that it has deemed it its duty to take executive action. On July 25th, 1906, the society passed the following resolution :—

That the present methods of ascertaining the fact and cause of death are imperfect, constitute grave public danger, and call for early legislation with a view to amelioration of the law.

The present system we hold to be imperfect in two respects. Firstly, it is too limited in its purview, it only deals with reported cases, there being no security that among unreported cases, and indeed even among some certified cases, that there are not included deaths due to other than natural causes. Secondly, in cases that do come within the scope of the existing system its efficiency is impaired by the machinery employed, by the multiplicity of jurisdictions involved, with the result that the most painstaking and precise investigations are often applied where they are the least and not where they are the most required. The revelations made by the Death Certification Committee of 1893 exposed a public scandal which has remained for 14 years unredressed. The percentage of certified to total deaths varied from 1·2 per cent. in London to 8·5 in North Wales and (though the Scotch system is, of course, different) to 42 per cent. in Inverness-shire.

The LORD CHANCELLOR: 42 per cent.! What is the explanation?

SIR WILLIAM COLLINS: Yes; the Select Committee regarded it as astounding, but I have verified their report to-day. Possibly it is due to the scattered population finding it difficult to get a medical man within reach. Then the present form of death certificate requires only the cause and not the fact of death to be vouched for, and cases are not unknown in which the certified "deceased" is still in the land of the living. That a coroner's inquest is no certain

guarantee of a true finding of the cause of death is clear from the ludicrous, and I trust exceptional, examples quoted before the Parliamentary committee—viz.: 1. "Death from stone in the kidney, which stone he swallowed when lying on a gravel path in a state of intoxication." 2. "Child, three months old, found dead, but no evidence whether born alive." It is believed that bodies are disposed of as still-born which are, in fact, those of live-born children, thus opening the door for crime, as the still-born are regarded by the law as non-existent. Again, the local registrar is appointed by one authority, controlled by another, and neither of these is the authority which appoints and pays the coroner. The local registrar is often unversed in medical terminology. Such a certified cause of death as the classical barbarism "angeioleucitis" might well overawe a local registrar, while it might also cover a case of blood poisoning, due to preventable cause. Then, again, the coroner's officer is an official unknown to the law and often little acquainted with medicine or law, yet he makes the delicate preliminary investigations on which the decision whether to hold an inquest or not is based. In some instances such officials have been found to be corrupt as well as uninformed. The percentage of reported cases in which inquests are held even in London varies from 90 in Westminster to 70 in a southern district of London. Even coroners are not always proficient in law and in medicine, though the London County Council in its recent appointments has endeavoured to secure men with the double qualification. As Lord Herschell once observed, "Certain legal and judicial qualities are essential to the efficient discharge of the coroner's duties. If you can find them pre-eminently in a medical man by all means appoint him; but I own I should no more expect to find them there than I should expect to find amongst my brethren of the bar one skilled in the diagnosis of disease." The Medico-Legal Society would therefore respectfully press upon your lordship that the law should be amended so that: (1) no human body, whether of one born alive or still, should be buried or otherwise disposed of without a certificate either by a competent medical man or by a coroner; (2) that such certificate should show the fact of death as well as its cause and also vouch for the identity of the deceased; (3) that specially qualified and independent medical men should be appointed as medical investigators or assessors to assist the coroner in preliminary inquiries, in scrutinising the causes of death, and in post-mortem examination; (4) that mortuaries with proper equipment for thorough investigation into the causes of death should be provided under the same authority as makes disbursements for inquests; (5) that the records of all such inquests should be public property; sixth and lastly, the society calls attention to an incidental advantage that should arise from such reforms—viz., the development of a school of medical jurisprudence in London worthy of the metropolis and associated with its University. This country has lagged behind France and Germany in the study and teaching of forensic medicine. The first work in English on the subject appeared in 1787, the first chair in Britain was founded at Edinburgh in 1801. Fodere, Orfila, and Tardieu had developed the science and Caspar in Germany had codified our knowledge in his classical work. By united effort and under improved administration a worthy school of forensic medicine should arise in London. We ask your lordship respectfully to give your best attention to these considerations. In turning over the pages of the autobiography of my kinsman, Sir Samuel Romilly, I alighted the other day on this passage: "Whatever just reforms are to be made in the civil and criminal jurisprudence of the country are wholly in the power of a Lord Chancellor." It is, my lord, because we fully realise the truth of that observation that we ask you, unlike your noble predecessors who, either from want of inclination or lack of opportunity, have left the Select Committee recommendations undealt with, to give your early and earnest consideration to securing a remedy for the unsatisfactory state of things which we have felt it our duty to lay before you.

The Lord Chancellor, in reply, promised to personally investigate the facts and to give his serious consideration to the whole matter laid before him.

LONDON TEMPERANCE HOSPITAL.—H.R.H. Princess Louise, Duchess of Argyll, has consented to open the new out-patient hall of the London Temperance Hospital on Tuesday, May 14th next.

MEDICINE AND THE LAW.

Dangerous Dogs and the Law.

RABIES has been stamped out in Great Britain by regulations which cause inconvenience to no one except those who are desirous of importing foreign dogs or who insist on dragging their pets about with them when they travel. Further advance towards securing the safety of those who do not keep dogs themselves has been made by two recent decisions in the King's Bench Division and by the publicity given to them. The first of these laid down no new version of the law, but only gave a final blow to a time-honoured superstition which has been kept alive by the catch-phrase to the effect that a dog is "entitled to his first bite." In the case in question a firm of dressmakers kept a chow bitch in the garden behind their premises, which on the occasion complained of got into one of the workrooms and bit an apprentice. The county-court judge found as a fact from evidence before him that the bitch had a propensity to be vicious, either generally or when she had puppies (as she had at the time when she bit the plaintiff), and awarded damages accordingly, although there was admittedly no evidence that any one had been bitten by her before. In dismissing the defendant's appeal Mr. Justice Darling said that it was not necessary in such a case to show that the owner of the dog knew that it had already bitten someone or that it had in fact bitten someone. It was only necessary to prove knowledge by the defendant that the dog was likely to bite without provocation, either in particular circumstances or generally. Mr. Justice Lawrence concurred in this view and the same two judges a few days later, sitting with the Lord Chief Justice, had another case before them in which also a dog was concerned. On this occasion a man had been summoned for not keeping a "dangerous" dog under proper control, but the justices had refused to convict, after excluding evidence that the dog had been seen to kill lambs. The court, after referring to the case already mentioned, held that there was no reason why the word "dangerous" should have its meaning limited to danger affecting human beings and sent the case back to the magistrates to be further heard. These two decisions have, we believe, to some extent anticipated a private Bill dealing with dogs, the passing of which might have been postponed indefinitely, and they should have a wholesome effect if they cause those keeping vicious pets to consider their position. Hitherto many selfish people have been in the habit of disregarding the fears and even the remonstrances of their neighbours, secure in the knowledge that their dogs have not yet bitten anybody and being no doubt also of the opinion that the "first bite" would not be inflicted on their own persons.

Experiments as Legal Evidence.

Inquest juries repeatedly have to take refuge in a self-evident "open verdict" in cases where there is insufficient evidence adduced to enable them to decide whether the deceased met his death by an accidental or a homicidal act, the latter, of course, including an act of self-slaughter. The evidence of eye-witnesses of the fatal deed is rare, so that the decision rests on the balance of probabilities. Where the inquest closes the matter little harm is done by returning either an open or a definite verdict, but where proprietary claims may follow upon the death greater care is needed in arriving at or near the truth. Then the opinions of expert witnesses may be heard for what they are worth. Now an expert witness is one who poses as an authority on a given subject from the fact that he has devoted considerable time and study to that particular theme, and usually he has qualified to bear technical testimony by having made many personal tests and experiments bearing on the matters in dispute. The case of Thackman *v.* The Brotherhood of American Yeomen, recently tried in the North-Western courts of the United States of North America, gives an instance where previous experimentation by a witness was allowed to give him a status in court as one able to throw light upon a disputed cause of death. The action was on a mutual benefit certificate under which a claim was made but contested by the defendants on the ground that the assured deceased had put an end to his own life. It appeared that the deceased was seen to go into a barn to get his team; he was discovered an hour later dead, being suspended by the neck from a tie strap attached to a bridle which was hanging on a peg whereon the deceased usually

hung his harness. Everything pointed to death from suicide. A witness, however, came forward and offered to narrate the results of some experiments he himself had made. In physical build he was about the same height and weight as the deceased. He stated that he had fixed the bridle and the strap just as it had been placed before the fatal occurrence, he had then walked towards them and just before reaching them he had deliberately stumbled and fallen, so that his neck was caught in the loop; he would have choked had he been unable to regain his balance at once. He repeated this experiment with the same result three times out of four attempts. The court held that this testimony was admissible as showing how death might have occurred.

American Tinned Provisions.

Mr. D. L. Thomas, medical officer of health of the borough of Stepney, in giving evidence at the Thames police court recently in support of a summons for selling unsound condensed milk, informed the magistrate that about 75 per cent. of the tinned foodstuffs imported from America are consigned without labels. This means that whatever information may afterwards be afforded by the label upon the tin is affixed by the firm selling it, with whom it rests whether the statement shall be accurate or not. As an American firm enjoying a high reputation and anxious to maintain it would probably insist upon its distinctive label appearing upon all its goods, the inference would seem to be that a large proportion of the tinned provisions imported from the United States are not of the highest quality, and also it may be conjectured that they are not sold as American products.

Looking Back.

FROM

THE LANCET, *SATURDAY*, April 11th, 1829.

COMMUNICATION OF HYDROPHOBIA FROM RABID SHEEP TO OTHER ANIMALS.

SOME very interesting experiments have lately been made at the veterinary school at Alfort, with respect to the above subject. Two sheep, belonging to the flock of M. Yoart, having been bitten by a dog, which soon afterwards died with the symptoms of confirmed hydrophobia, and having, about a month afterwards, evinced all the signs of rabies, a horse, a dog, and two sheep, apparently in perfect health, were inoculated with their saliva; the skin was in several places slightly scarified, and the saliva applied to the wounds; at the same time the four animals were left in constant contact with the two rabid sheep, which died on the fourth day after the first symptoms of rabies. A few hours previous to the death of one of them, a dog and a lamb were inoculated with its saliva.

Four months after the experiment, none of the six inoculated animals had exhibited any symptoms of the disease; it is accordingly more than probable, that the disease cannot be communicated from sheep to other animals.

From the description of rabies in sheep, as observed in the above cases, it appears, that it is not accompanied by the dread of water, and that, therefore, in these animals, as well as in dogs, it is improperly called hydrophobia.—*Magendie's Journal.*

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8269 births and 5492 deaths were registered during the week ending April 6th. The annual rate of mortality, which had been equal to 16·8 and 17·7 per 1000 in the two preceding weeks, further rose to 17·9 per 1000 during the week under notice. During the 13 weeks ending March 30th the death-rate in these towns averaged 19·0 per 1000, the rate in London during the same period being 19·2 per 1000. The lowest rates last week in the 76 towns were 6·3 in Handsworth (Staffs), 7·0 in Hornsey, 9·1 in Croydon, and 11·1 in East Ham; among the other towns the highest rates were 24·4 in Grimsby, 24·5 in Portsmouth, 24·6 in Birkenhead, 26·9 in Oldham, and 27·7 in Wigan. The 5492 deaths in the 76 towns showed an excess of 43 over the number in the preceding week, and included 568 which were referred to the principal infectious diseases, against 469 and 559 in the two preceding weeks; of these, 251 resulted from measles, 170 from whooping-cough, 59 from diphtheria, 36 from scarlet fever, 34 from diarrhœa, and 18 from "fever" (principally enteric), but not any from small-pox. No death from any of these epidemic diseases was registered in Bournemouth, Devonport, Wolverhampton, Coventry, York, South Shields, or Tynemouth; the annual rates from these diseases, however, ranged upwards to 5·4 in Hanley, 5·5 in Portsmouth, 7·9 in Birkenhead, 8·5 in St. Helens, and 8·9 in Grimsby. The 251 fatal cases of measles were 18 in excess of the number in the preceding week, the highest annual rates therefrom being 4·1 in West Hartlepool, 4·3 in Portsmouth, 5·1 in St. Helens, 5·2 in Grimsby, and 7·0 in Birkenhead. The 170 deaths referred to whooping-cough showed a decline of five from the number in the preceding week, the rate from this disease, however, ranging upwards to 1·8 in Salford and Preston, 2·1 in Willesden, 2·7 in Bury, and 3·0 in Grimsby. The 59 deaths from diphtheria also showed a further decline from the numbers in recent weeks, the highest proportional mortality being recorded in Sunderland and Gateshead. The fatal cases of scarlet fever, of "fever," and of diarrhœa were not excessive in any of the 76 towns. No case of small-pox has been under treatment in the Metropolitan Asylums Hospitals since the end of June last. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which in the 14 preceding weeks had uninterruptedly declined from 3848 to 2657, had risen again to 2665 at the end of last week; 352 new cases were admitted during the week, against 327, 312, and 330 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 403, 353, and 354 in the three preceding weeks, rose again last week to 412 and were 99 in excess of the corrected average number in the corresponding week of the previous five years. The 17 deaths referred to influenza in London were four below the corrected average. The causes of 44, or 0·8 per cent., of the deaths registered during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in London, Leeds, West Ham, Newcastle-on-Tyne, Salford, Leicester, and in 47 other of the 76 towns; the proportion of uncertified deaths, however, showed a marked excess in Liverpool Birmingham, Sheffield, Bristol, Bradford, Portsmouth, Reading, and Warrington.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 20·6 and 20·3 per 1000 in the two preceding weeks, further declined to 19·4 per 1000 in the week ending April 6th, but was 1·5 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 12·9 Paisley and 16·1 in Aberdeen and in Greenock to 21·9 in Glasgow and 24·0 in Perth. The 673 deaths in the eight towns showed a decline of 33 from the number in the preceding week, and included 114 which were referred to the principal epidemic diseases, against 100, 102, and 107 in the three preceding weeks. These 114 deaths were equal to an annual rate of 3·3 per 1000, which exceeded by 1·5 per 1000 the rate from the principal epidemic diseases in the 76 English towns; they included 48 which were referred to "fever," 40 to whooping-cough, 14 to diarrhœa, five to diphtheria, four to scarlet fever, and three to measles. The deaths referred to "fever," which had been 48 and 39 in the two preceding weeks, rose again last week to 48, and included 32 in Glasgow, seven in Edinburgh, six in Leith, two in Dundee, and one in Aberdeen; 29 of these "fever" deaths in Glasgow, six in Edinburgh, five in Leith, and the two in Dundee were certified as cerebro-spinal meningitis. The fatal cases of whooping-cough, which had been 33, 33, and 34 in the three preceding weeks, increased last week to 40, of which 31 occurred in Glasgow, three in Edinburgh, three in Dundee, and two in Aberdeen. Eight of the 14 deaths from diarrhœa were registered in Glasgow, three in Dundee, and two in Edinburgh. The five fatal cases of diphtheria included four in Glasgow; two of the four deaths from scarlet

fever occurred in Glasgow and two in Edinburgh; and two of the three deaths from measles in the latter city. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 155, 147, and 123 in the three preceding weeks, further declined last week to 109, and were 33 below the number in the corresponding period of last year. The causes of 25, or 3·7 per cent., of the deaths registered in the eight towns during the week were not certified; in the 76 English towns the proportion did not exceed 0·8 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been 22·3 and 24·3 per 1000 in the two preceding weeks, further rose to 28·3 per 1000 in the week ending April 6th. During the 13 weeks ending March 30th, the death-rate averaged 27·2 per 1000, the rates during the same period being 19·2 in London and 19·6 in Edinburgh. The 212 deaths of Dublin residents registered during the week exceeded by 30 the number in the previous week, and included 15 which were referred to the principal infectious diseases, against 12 in each of the two preceding weeks; of these eight resulted from whooping-cough, three from measles, three from diphtheria, and one from "fever," but not any from small-pox, from scarlet fever, or from diarrhœa. These 15 deaths were equal to an annual rate of 2·0 per 1000, the death-rate last week from the principal infectious diseases being 1·9 in London and 2·4 in Edinburgh. The eight deaths from whooping-cough exceeded the number recorded in any previous week of this year; the deaths from diphtheria also showed an excess over the numbers in recent weeks; while the mortality from measles and from "fever" was slightly lower than it had been in the preceding week. The 212 deaths from all causes included 32 of children under one year of age and 50 of persons aged upwards of 60 years, each of these numbers being six in excess of the corresponding number in the preceding week. Seven inquest cases and four deaths from violence were registered; and 97, or nearly 46 per cent., of the deaths occurred in public institutions. The causes of five, or 2·4 per cent., of the deaths in Dublin last week were not certified; in London all the causes of death were duly certified, while in Edinburgh the proportion of uncertified deaths was as much as 4·1 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Deputy-Inspector of Hospitals: W. Tait, to Hong-kong Yard. Staff Surgeons: A. E. Kelsey, to the *Diadem*, on recommissioning; and W. J. Codrington, to the *Isis*, on commissioning.

ROYAL ARMY MEDICAL CORPS IN INDIA.

Lieutenant-Colonel D. O'Sullivan, on reversion from the 9th Secunderabad Division, is appointed to the command of the Station Hospital, Rawalpindi. Lieutenant-Colonel F. H. Treherne is appointed to the command of the Station Hospital, Sialkot. Major N. Tyacke to the command of the Station Hospital, Dalhousie. Captain L. W. Harrison to medical charge of Headquarters Staff and establishments, Northern Command. The following hill station appointments have been approved for the summer season of 1907: Major O. R. A. Julian, to command Station Hospital, Cherat; Captain J. M. H. Conway, to command of the Station Hospital, Kalabagh; Captain R. L. Argles, to command of the Station Hospital, Khyra Gali; Captain R. Storrs, to command of the Station Hospital Camp, Barian; Lieutenant-Colonel D. M. O'Callaghan, to command of the Station Hospital, Kuldanna; Major H. N. Dunn, to command of the Combined Station Hospital for Khanspur and Ghora Dhaka; Captain W. D. C. Kelly, to command of the Station Hospital, Upper Topa; Lieutenant W. Benson, to command of the Station Hospital, Lower Topa; Lieutenant J. A. Turnbull, to command of the Station Hospital, Bara Gali; Major G. St. C. Thom, to command of the Station Hospital, Solon. The following officers have been granted leave: Captain W. F. Tyndale, on private affairs for seven months; Lieutenant-Colonel C. C. Reilly, for six months on medical certificate pending retirement; Lieutenant-Colonel B. L. Mills, seven months on private affairs; Lieutenant-Colonel A. L. F. Bate, seven months on private affairs; Captain W. M. Power, three months privilege in India; Captain B. H. V. Dunbar, six months on private affairs; Major L. A. Mitchell has been granted extension of sick leave to August 18th, 1907. Lieutenant-Colonel M. B. Skinner, M.V.O., on arrival from England will be posted to Nowshera and appointed to the command of the Station Hospital there. Lieutenant-Colonel P. C. H. Gordon is transferred from Secunderabad to Burma Division, Lieutenant G. Ormrod from Eastern Command to Burma Division, Captain J. F. Whelan to Aden for duty in the Station Hospital, Captain J. W. Seccombe from Rawalpindi to Ambala for charge of Brigade Laboratory, Lieutenant-Colonel J. R. Stuart from Mount Abu to Neemuch, Captain E. W. Powell from Poona to Kirkee, and Lieutenant C. D. M. Holbrook from Kirkee to Poona.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant James C. Herbertson to be Surgeon-Captain (dated March 19th, 1907).

CHANNEL ISLANDS MILITIA.

The Royal Militia of the Island of Jersey.—Staff: Surgeon-Major W. Falla, Principal Medical Officer, to be Surgeon-Lieutenant-Colonel (dated Feb. 6th, 1907).

HONOURABLE ARTILLERY COMPANY OF LONDON.

Surgeon-Lieutenant-Colonel R. J. Reece is granted the honorary rank of Surgeon-Colonel (dated March 7th, 1907).

IMPERIAL YEOMANRY.

Fifeshire and Forfarshire: Alan Leonard Smith Tuke to be Surgeon-Lieutenant (extra) under the conditions of paragraph 28, Imperial Yeomanry Regulations (dated Feb. 27th, 1907). Worcestershire (the Queen's Own Worcestershire Hussars): Surgeon-Captain J. H. Beilby resigns his commission (dated Feb. 28th, 1907).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Ayrshire and Galloway: John Aitken to be Surgeon-Lieutenant (dated March 15th, 1907).

Rifle: 4th Volunteer Battalion the Queen's (Royal West Surrey Regiment): Charles Spencer Palmer to be Surgeon-Lieutenant (dated Feb. 15th, 1907). 2nd Volunteer Battalion the King's (Liverpool Regiment): Supernumerary Surgeon-Captain J. G. Martin (on ceasing to do duty with the Liverpool Bearer Company, Royal Army Medical Corps (Volunteers), is absorbed into the establishment (dated Feb. 1st, 1907). 8th (Scottish) Volunteer Battalion, the King's (Liverpool Regiment): The undermentioned officer resigns his commission: Surgeon-Captain W. S. Henderson (dated Feb. 15th, 1907). 5th Volunteer Battalion the Royal Scots (Lothian Regiment): Surgeon-Major J. Mill to be Surgeon-Lieutenant-Colonel (dated Feb. 20th, 1907). 1st Volunteer Battalion the Royal Warwickshire Regiment: Surgeon-Captain C. Y. Flewitt resigns his commission (dated March 6th, 1907). 1st Volunteer Battalion the Royal Fusiliers (City of London Regiment): Surgeon-Lieutenant-Colonel H. G. Thompson (Brigade Surgeon-Lieutenant-Colonel, Senior Medical Officer, Royal Fusilier Volunteer Infantry Brigade) is granted the honorary rank of Surgeon-Colonel (dated March 4th, 1907). 2nd Volunteer Battalion the Duke of Cornwall's Light Infantry: Surgeon-Major and Honorary Surgeon-Lieutenant-Colonel W. Nettle to be Surgeon-Lieutenant Colonel (dated July 3rd, 1906) 19th Middlesex (St. Giles's and St. George's Bloomsbury) Volunteer Rifle Corps: Surgeon-Lieutenant W. F. Roe to be Surgeon-Captain (dated March 9th, 1907).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Scottish Command, Glasgow Companies: Captain D. Christie resigns his commission (dated March 14th, 1907); David Shannon to be Lieutenant (dated March 15th, 1907).

THE REGULATIONS FOR THE EXAMINATION OF CANDIDATES FOR ADMISSION TO THE INDIAN MEDICAL SERVICE.

Revised regulations for the examination of candidates for admission to His Majesty's Indian Medical Service have been issued, one of the principal alterations being a change in the list of subjects under Item 6 which formerly read "Chemistry and Pharmacy, with either Botany or Zoology." It now reads "Materia Medica, Pharmacology, and Toxicology." The maximum number of marks—namely, 600—remains unaltered.

THE COURSE OF INSTRUCTION FOR NAVAL SURGEONS AT HASLAR.

The course of instruction for surgeons of the Royal Navy at Haslar was brought to a close on April 5th, when the

prizes were distributed. The gold medal was awarded to Surgeon W. H. Hastings of University College, the microscope to Surgeon S. F. Dudley of St. Thomas's Hospital, and the silver medal and books to Surgeon J. L. Barford of King's College. The names of the candidates, two of whom had university degrees, with the marks gained at the entrance examination and at the Haslar course, are subjoined :—

	Marks.		Marks.
W. H. Hastings	4660	W. W. D. Chilcott	3995
S. F. Dudley	4465	J. C. F. D. Vaughan	3792
J. L. Barford	4341	W. F. Archibald	3535

NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund, held on April 9th, with Mr. C. I. Thomas, C.B., Secretary of the Admiralty, in the chair, the sum of £75 was distributed among the several applicants. Mr. G. W. Perrin was appointed secretary to the fund, vice Mr. P. Francis resigned.

THE INSPECTOR OF MEDICAL SERVICES.

The April Army Orders, issued by command of the Army Council, contain the following :—

75. *King's Regulations (Amendments).*—The following new paras. will be inserted after para. 183B :—

The Inspector of Medical Services.

183C. The Inspector of Medical Services will report on :—(*a*) The physical and sanitary efficiency of the forces, and on any precautionary or remedial measures relating to barracks, encampments, garrisons, stations, hospitals, diet, dress, drills, duties, &c., which may, in his opinion, conduce to the preservation of the health of the troops and the mitigation or prevention of disease. (*b*) The medical examination and physical training of recruits, both at depôts and with units, and whether the gymnasium courses, drills, duties, &c., subject the men to undue strain. (*c*) The methods of medical administration in districts and commands, with a view to establishing a uniform system throughout the army. He will also inspect military hospitals and visit transports and hospital ships.

183D. He will report on the adequacy of the sanitary instruction afforded to the army, and also on schools of instruction (including garrison schools) and courses of instruction conducted by the R.A.M.C.

183E. He will inspect the R.A.M.C. and general medical stores (including the store at Woolwich) and will report whether all ranks are thoroughly acquainted with their duties in connexion with the medical arrangements for mobilisation.

THE NATIONAL SERVICE LEAGUE AND THE TERRITORIAL ARMY SCHEME.

The letter which the National Service League has addressed to the press is a very notable document from whatever point of view it is considered, whether as regards the eminence and authority of the names attached to it, the argumentative strength and reasonableness of the criticism it brings to bear upon Mr. Haldane's new army scheme, or the fairness and common sense with which the subject is handled. To those who know from personal experience what war is, whether serving in the combatant ranks of the army or in the Royal Army Medical Corps, there is no need for us to say anything, for they have no doubt already made up their mind on the matter. But we strongly commend this publication on the part of the National Service League to the earnest and thoughtful consideration of all desirous of forming some opinion of the merits and defects of Mr. Haldane's scheme and of finding their way to some reasonable solution of the army problem. To confine ourselves to one point only because it seems to us a crucial one for the successful working of Mr. Haldane's scheme—will it include a compulsory six months' preliminary training or not? We shall no doubt know much more about the intentions of the Government at the end of the second reading of the Territorial and Reserve Forces Bill than we do now. As to a system of universal compulsory training leading to a widespread spirit of militarism, we believe that it would have an exactly opposite effect. National preparedness for war should, by increasing national confidence and a sense of personal responsibility, strongly strengthen the chances of peace and lessen the liability to unseemly panic. Even apart from its being the reasonable duty of every citizen to aid in the defence of his country, we contend from our point of view that an obligatory military training increases the physical strength, improves the physique, and teaches a man how to conduct himself, mentally and morally, to the best advantage in all emergencies.

THE CAPE PREMIER AND IMPERIAL DEFENCE.

The Colonial Conference will ere long be setting about its deliberations, which will be of an Imperial character, and Dr. Jameson, the Cape Premier, will, it is announced, submit two propositions for consideration, one dealing with the creation of an Imperial Council and the other with the subject of British preference. We call attention to the former because it seems, at the present time, to open a way to the possible unification of the Colonial forces available for Imperial defence on a large scale, when the provision of an Imperial Medical Service available for any future war would necessarily form an integral part of the organisation. Dr. Jameson's proposed resolution is to the following effect :—

This conference considers necessary the organisation of a plan of Imperial defence by which the contributions of each colony should be equitably fixed and provided for; this conference believes that while any call to arms resulting from an attack on the Empire would unquestionably meet with an enthusiastic response from the colonies, yet it is essential to know the number of trained, equipped, and efficient men which the colonies will undertake to make available for Imperial defence when called upon; this conference, however, is of opinion that, prior to accepting the burden and expense of such a responsibility the colonies would require to be represented on an Imperial Council at which questions concerning *inter alia* the peace of the Empire should be discussed. Seeing that the above resolutions involve considerations of the first importance to the future of the Empire, this conference submits them to His Majesty's Government in the confident belief that they will receive the serious consideration which their character demands.

Correspondence.

"Audi alteram partem."

THE MEDICAL DEGREES OF THE UNIVERSITY OF LONDON.

To the Editors of THE LANCET.

SIRS,—In reference to the present controversy concerning the maintenance of the standard for the above degrees, I have been asked, on the ground that I was an examiner in medicine during the last year of the old system as well as during the first three years of the new, whether there has or has not been any actual lowering of the standard. May I be permitted to say that I have throughout considered it my duty to maintain the standard, and that to the best of my knowledge no lowering has taken place. So far as the medicine at the M.B., B.S., is concerned, my impression is that at the present time the standard is higher that at any previous period. Of this I am certain, that no suggestion—official or unofficial—to the effect that at any of the examinations in which I was concerned any lowering of the standard was advisable has ever reached me or been discussed in my presence, and that ancient usage has been the principal factor in solving new problems.

I have assumed, how far correctly I cannot say, that the improved results at the M.D. examination have been due to two changes. Under the old scale of fees a candidate paid £5 on entering for any M.D. examination. Under the recent scale he paid £20 instead of £5 on first presenting himself, and, if he failed to pass, an additional £20, instead of £5, every time he re-entered. It appears highly probable that a graduate would, under the higher scale of fees, be more careful in preparing himself for the examination and be less likely to enter unless he felt tolerably certain of passing. Again, the additional opportunities for specialisation under the new regulations afford a man a chance of working at what most interests him, and therefore of attaining more easily a higher degree of knowledge.

It is the business of examiners to test as closely as possible the merits of the individual candidates and to arrive at a decision without reference to the statistics of previous examinations. Any other course involves gross injustice to the candidates, and must bring discredit upon the University.

I am, Sirs, yours faithfully,

London, W., April 9th, 1907. H. MONTAGUE MURRAY.

THE USE OF ALCOHOLIC BEVERAGES.

To the Editors of THE LANCET.

SIRS,—As a member of the medical profession, who has practised for some years in a district where the effects of alcohol can be readily studied, I may be permitted to ask, in view of statements—so much at variance with recent investigations—made in the manifesto in THE LANCET of March 30th, for evidence by which the old conclusions have been reaffirmed. Such statements, which may, and probably will, exercise an extremely harmful influence on the community at large, can hardly have been made public without fresh data

having been discovered not generally known to the majority of practitioners which it is desirable should be published for their benefit.

The vast majority of medical men accept the influence of alcohol as a drug, but I believe an increasing number who have given much attention to the subject believe, perhaps wrongly, that its influence in health is always in some degree prejudicial; that the craving for the drug is so easily formed and so powerful when established that it is advisable under all circumstances to confine its action to therapeutic needs only. It should also be remembered that the ordinary medical specialist, unless his practice is confined to alcoholic cases, has less *clinical* experience than the general medical practitioner, as the latter sees at least as many patients and can study the effects of alcohol by observing altered personal states under the influence of the drug in individuals whom, as the family practitioner, he has known for years.

In common, therefore, with many other medical men I should be glad to know in what respects recent investigations by research students, such as Mott, Ballantyne, Kraepelin, &c., have been modified by still newer work from the following points of view: (*a*) in relation to experiments (German and American) which seemed to establish the facts that alcohol in quite moderate doses diminishes mental activity; (*b*) that in physical training it is diminishingly used; (*c*) that in tropical, arctic, and military expeditions its use as a beverage is being given up; (*d*) that histological studies, particularly of the nervous system, seem to have proved that its action is deleterious; (*e*) to show that its resemblance to progressive dementia, in the symptoms that it gives rise to, is not pathological; (*f*) in view of recent facts discovered in relation to heredity and alcohol to produce convincing evidence to the effect that alcohol does not injure germinal tissue and is not prejudicial to the pregnant and nursing woman; (*g*) to consider recent insurance statistical evidence which supports the contention that abstainers are long-lived; and (*h*) to explain why, if alcohol is beneficial in small doses, it has been so largely abandoned in surgery.

I feel sure that many medical men would welcome specific scientific information on each of these points, but opinions without data are justly felt to be valueless and derogatory to medical reputation, if they are not, indeed, morally indefensible.

With many apologies for the length of this letter,

I am, Sirs, yours faithfully,

Willesden Green, N.W., April 5th, 1907. J. LIONEL TAYLER.

To the Editors of THE LANCET.

SIRS,—As you have given publicity to the opinion of 16 medical men upon the value of alcohol in diet and medicine it may interest your readers to peruse certain statements signed by the highest medical authorities of a former generation. In 1839 Mr. Julius Jeffreys, himself a medical man, obtained the signatures of 78 distinguished members of the medical profession to a declaration which is in curious contrast to the statement recently published. The declaration said:—

> An opinion handed down from rude and ignorant times, and imbibed by Englishmen from their youth, has become very general, that the habitual use of some portion of alcoholic drink is beneficial to health, and even necessary to those subjected to habitual labour. Anatomy, physiology, and the experience of all ages and countries when properly examined must satisfy every mind well-informed in medical science that the above opinion is altogether erroneous.

Among the 78 signers of this declaration were Sir Benjamin Brodie, Dr. W. F. Chambers, Sir James Clarke, Barnsby Cooper, Sir J. Eyre, Dr. R. Fergusson, Dr. Marshall Hall, Herbert Mayo, Dr. John Hope, C. A. Kaye, Dr. R. Lee, Richard Quain, R. Trevors, and Drs. Andrew and Alexander Ure.

In 1847 a declaration, drawn up by three eminent medical men, ran as follows:—

> We, the undersigned, are of opinion: 1. That a very large portion of human misery, including poverty, disease, and crime, is induced by the use of alcoholic or fermented liquors as beverages. 2. That the most perfect health is compatible with total abstinence from all intoxicating beverages whatever, in the form of ardent spirits, or as wine, beer, ale, porter, cider, &c., &c. 3. That persons accustomed to such drinks may, with perfect safety, discontinue them entirely, either at once, or gradually after a short time. 4. That total and universal abstinence from alcoholic liquors and beverages of all sorts would greatly contribute to the health, the prosperity, the morality, and the happiness of the human race.

A column of THE LANCET would not contain the names of the eminent medical men who signed this declaration, which was also subscribed by nearly 2000 medical men in the United Kingdom and India. 60 years have passed since the latest of these declarations was issued, and in that interval comparisons of various kinds have been instituted between moderate drinkers and abstainers as to rates of mortality and sickness; and it may be averred with confidence that all such comparisons have resulted in favour of abstinence and not of moderate drinking. The statement of the 16 medical men is in opposition to all the data which have been accumulating since the origin of the temperance reform, and, in effect, it takes us back to those "rude and ignorant times" in which, according to the declaration of 1839, the opinion of the 16 originated. The former part of their statement deals with the use of alcohol in disease and might have been written had no London Temperance Hospital been at work for 33 years, the experience of which it ignores. That alcohol, like other drugs, may have a use in particular conditions of disease is not denied, but it is impossible reasonably to claim for it the value placed upon it by the 16 advocates in face of the facts—first, that the visiting staff of the London Temperance Hospital, being free to prescribe it when deemed needful, have only done so in the case of 80 patients out of the 26,000 who have passed through the wards of the hospital; and, secondly, that the statistics of the London Temperance Hospital as to the rate of mortality and the proportion of recoveries compare favourably with those of other general hospitals.

I am, Sirs, yours faithfully,

DAWSON BURNS, D.D.,
Honorary Secretary of the London Temperance Hospital.

April 5th, 1907.

To the Editors of THE LANCET.

SIRS,—On March 30th you published a letter signed by a small group of members of the medical profession advising the public (1) to use alcohol as a drug, and (2) all adults (by the way, why not children too?) to usually drink it as an article of daily diet. The gravity of medical men giving such advice in view of the national issues involved cannot, of course, be over-stated, but the responsibility concerns the signatories only; the wisdom of following their advice, however, concerns the public and depends upon the proofs which the signatories rely upon in support of their position. These should be: 1. Experimental. But they offer none; not a single atom of evidence do they give in support of any one of their statements. 2. Statistical. But they are not statistical, for their assertions are directly contradicted by the returns of the Registrar-General and the life assurance societies. 3. Practical. But they cannot be practical, as the diminished mortality of the London hospitals shows, in spite of the enormous reduction in their alcohol bills. 4. Sociological. But they are certainly not sociological, whatever else they may be, as the report of the Physical Deterioration Committee teaches us. 5. Consensus of medical opinion. But the consensus of medical opinion lies precisely the other way, as the petition from over 14,000 of the medical profession in favour of the teaching of hygiene and temperance to the coming generation shows. 6. The support of the "leaders" of the profession; but this they have been unable to obtain, as in spite of widespread and urgent canvassing their letter is signed by only 16 medical men, one of whom has since written to explain that his signature was only secured by a breach of faith. 7. The weight to be attached to the names of the signatories themselves. As this personal factor is unfortunately the only guarantee they offer for their advice, it must, however reluctantly, be carefully analysed. Perhaps the least objectionable manner in which this point may be approached is to show what qualifications the names ought to possess in order to give them the necessary weight in the balance. First, being so few in number they should, without exception, be members of the front rank of the profession who are actively engaged in scientific or literary research into all aspects of the alcohol question; second, they should show in these days of "brewery shares" that they are pecuniarily disinterested in the question; and thirdly, they should be able to demonstrate that there is no risk of a "moderate" use of alcoholic beverages (by the way, what quantity is "moderate"?) ever leading to the habit of incipient intoxication. Until they offer proofs in satisfaction of the foregoing points it would certainly appear that the only common-sense course for the lay public to adopt is to regard (or rather

disregard) their "pronouncement" as being a negligible quantity. I beg to subscribe myself

A MEMBER OF THAT PUBLIC FOR WHOM THE
April 6th, 1907. PRONOUNCEMENT WAS INTENDED.

*** We have received very many letters on this subject and shall possibly publish a further selection of them. We are glad to notice in communications from most of our medical correspondents the absence of the suggestion that political or pecuniary motives induced the publication of the much-discussed document.—ED. L.

ON THE CONDITION OF THE BLOOD-VESSELS DURING SHOCK.

To the Editors of THE LANCET.

SIRS,—Though not acquainted with surgical shock I feel greatly interested in the discussion on the above-mentioned subject. It proves so very clearly how ignorant we are of this difficult and intricate problem of the blood pressure in man. So far, indeed, goes our ignorance that two so widely different opinions are possible about a so marked disturbance of circulation. I cannot confirm Mr. Malcolm's views on shock but have to confess that I am much impressed by his arguments. I think his way of looking at the vessels, as described in his lecture in THE LANCET of August 26th, 1905, p. 573, may be very helpful in detecting the true state of things in many a case. Some time ago I was asked to see a woman aged about 40 years. It was a case of long-standing mitral stenosis. The right heart was still strong enough, the muscular apparatus at the orifices of the veins still working well; there was no general stasis or œdema but this sad condition of overfilling of the lungs which suffocates the patient. She was in the very last period of her disease and died a few weeks afterwards. Still, to save, or at least to prolong, life the doctor prescribed digitalis; not seeing any effect he gave it in a very large dose as an enema. To his great surprise he saw the (still regular) pulse disappearing and asked me to come over and see the patient. I found a filiform, nearly impalpable pulse, but very strong heart sounds and apex beat. Looking at the neck of the patient to see whether there was any venous pulsation I found well-filled, extremely hard, and wildly beating throbbing carotids. It was obvious that the heart was working against a heavy resistance. Why was the pulse so impalpable?

The explanation is, I think, in the line of Mr. Malcolm's suggestions. The large dose of digitalis contracted the arteries higher up than the radials at the wrist, the carotids being not, or not so much, contracted. The heart therefore worked against a heavy resistance, there was a very high intracardial pressure and a high blood pressure in the carotids. Now who will tell what the blood pressure has to be in the contracted radials at the wrists? Is Dr. Williams sure that it will be found high in that part of the arterial system? The problem of blood pressure is *not* settled by saying "if the blood-vessels contract the blood pressure rises; if they dilate the blood pressure falls." This assertion holds good for the intracardial pressure only. At the periphery it depends upon the spot where blood pressure is gauged and upon how far the contraction of the vessels has gone. I think it very probable that under some extraordinary influence (maybe in shock) the contraction of the vessels may go up still higher than the arteries in the arms and involve carotids and part of the aorta. The intracardial pressure may rise enormously and a low pressure be found in the periphery, where a large amount of resistance has been overcome. So I do not say Mr. Malcolm's explanation of surgical shock is the right one, but I think it may be useful in clinical examination and may be a help in explaining conditions which otherwise are not well understood.

I am, Sirs, yours faithfully,
Groningen, March 31st, 1907. K. Z. WENCKEBACH.

To the Editors of THE LANCET.

SIRS,—In my letter on this subject which you were good enough to publish on March 23rd, I invited Mr. J. D. Malcolm to point out the existence of any fallacy in one of the arguments by which the present view is supported. He responds in your issue of March 30th with two statements, one of which, even if it be a fact, is not a fallacy, and the other of which is certainly neither fallacy nor fact.

The first is that in shock the blood pressure in the splenic vein is raised. Now, the splenic vein is a vessel which, owing to its anatomical position, does not lend itself either to frequent observations or to such as are altogether free from sources of error; but even if this were otherwise, from the interposition of the heart on the one hand, and the capillaries on the other, it must be obvious that the state of the pressure in an individual vein has no necessary or even probable relation with the general state of the pressure in the arterial system. The second statement is that a fall of blood pressure as recorded by the manometer might be due to a vaso-dilatation which is local and not general. Unfortunately for Mr. Malcolm, this is not so. The healthy organism must not, and will not, allow the blood pressure to fall below the normal level. If it does, the medulla is immediately threatened with starvation and the animal with death. A local dilatation is therefore immediately compensated for by a constriction elsewhere, so that the pressure may be maintained at its proper level. When, therefore, a local dilatation causes a fall in blood pressure it means that there has been no compensatory constriction elsewhere. This can only occur when the constrictor power is seriously impaired, as, for example, when the medulla is exhausted. There is thus no escape from the conclusion that, the cardiac power being constant, a low blood pressure indicates a general vaso-dilatation.

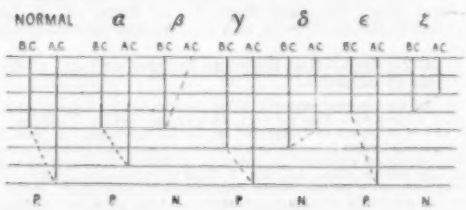
The contention that the condition of shock can be characterised by an unimpaired cardiac power, together with a general vaso-constriction, surely reveals some confusion of thought. Such a combination is very suggestive of a ruptured blood-vessel, but, except by a hæmorrhagic route, it seems impossible to understand how it can cause the extreme degree of asthenia which is generally understood by shock. I am, Sirs, yours faithfully,

London, W., March 30th, 1907. LEONARD WILLIAMS.

"A PRELIMINARY NOTE ON RINNÉ'S TEST."

To the Editors of THE LANCET.

SIRS,—I hope I shall not seem to be displaying undue haste if I venture to make a suggestion to Mr. Richard Lake in connexion with his "Preliminary Note on Rinné's Test" in THE LANCET of Feb. 23rd, p. 505. I might wait to see the detailed statement which he promises and which I am looking forward to, but then my suggestion might be too late.

If I may be allowed to say it, Mr. Lake's method of recording the subdivisions of Rinné's test seems to me to be lacking in point. The method is accurate, of course, but the idea of each subdivision is grasped only after a more or less lengthy mental effort. Why not use the diagrammatic representation which is in vogue in Professor Politzer's clinic? The positive or negative quality is seen at a glance, and not only can Mr. Lake's six subdivisions be shown but any number of variations in them. Two vertical lines stand for the relative lengths of B.C. and A.C., and as, in the normal state of hearing, the length of B.C. is less than that of A.C., the line standing for the B.C. of normal hearing will be shorter than that standing for A.C. The following seven diagrams, therefore, will indicate normal hearing, and the six subdivisions referred to in Mr. Lake's paper.

The inclination of the line connecting the bases of the two vertical lines at once shows whether the positive or negative quality obtains. I need hardly say that the lines B.C. and

A.C. under "normal" do not pretend to represent *accurate* measurements of B.C. and A.C.

I am, Sirs, yours faithfully,

D. MATHESON MACKAY, M.D. Edin.,
Late Senior Clinical Assistant, Hospital for Diseases of the Throat, Golden-square, London, W.

Hull, March 22nd, 1907.

THE INCREASE OF INSANITY.

To the Editors of THE LANCET.

SIRS,—I greatly regret that I should have caused annoyance to Dr. Marr by my suggestion that the difference between the increase among general paralytics in Glasgow and in Edinburgh might be the result of better clinical observation in the latter. For this suggestion I have no ground, but still it is a very difficult thing to believe that it is a fact that the disease increases more in Edinburgh than in Glasgow, and I ought to have put it that it probably was a question of difference of diagnosis. Any way I am certain that the careful examination of patients at Woodilee leaves nothing to be desired.

Yours truly,

Devonshire-place, W., April 9th, 1907. GEO. H. SAVAGE.

A NATIONAL SCHOOL FOR CONSUMPTIVES.

To the Editors of THE LANCET.

SIRS,—My attention having been called to a letter by my friend, Dr. M. S. Paterson, of the Frimley Sanatorium, in your issue of March 23rd, *apropos* of an article by Mr. C. H. Garland and myself under the above title, may I be allowed to correct what seems to be a misconception when he infers that our views were based on our visits to Frimley? Our scheme was framed originally in 1903 and 1904 and in the inclosed copy of my interim report as chairman of the Sites and Buildings Subcommittee (p. 7, Fourthly) printed for March 11th, 1904, you will find that our advocacy of the adoption of the system of employing selected patients in sanatoriums—which, by the way, is no new thing—antedated not only our visits to the Brompton Hospital Sanatorium by a few years but also, I believe, the erection and opening and Dr. Paterson's appointment thereto.

The scheme of the National Association for Establishing and Maintaining Sanatoria, for which I have had the honour and pleasure of working continuously since its inception, has been developed almost without modification on the lines laid down in the report quoted. The other medical members referred to therein were Dr. A. P. Hillier and Mrs. Percy Alden, who were both unfortunately obliged to give up this work by other public calls upon them, but not before giving very substantial assistance. Dr. Paterson has achieved a striking piece of organisation and administration, and no one engaged on the development of similar methods on a large scale in England can afford to ignore his demonstration of the possibilities of this work. I wish to take this opportunity, in case our article did not convey our gratitude as sufficiently as it might have done, of thanking Dr. Paterson and his colleagues for enabling Mr. Garland and myself, as well as Dr. L. Crossley, the medical superintendent of our first sanatorium at Benenden, to see what was being done at Frimley.

I am, Sirs, yours faithfully,

Brook-street, W., April 2nd, 1907. THOS. D. LISTER.

SANITARY ADMINISTRATION IN PAIGNTON.

To the Editors of THE LANCET.

SIRS,—I have had a copy of your editorial note under the above heading sent to me, and as a resident in Paignton for the past 18 years and recently a member of the urban district council I wish to reply to some points upon which I venture to think you have been misled by the report of the medical officer of health, who has evidently overlooked the fact that the report may come into the hands of those who have no local knowledge.

I will take the case of the supposed disregard of the by-laws, where it is said that the council is permitting a road 600 feet long to be only 24 feet wide. The report does not state that this is a parish road leading from Paignton to Marldon and having an average width of 13 feet. All the council could compel the adjoining owners to do in the event of houses being erected would be to keep the frontages back 18 feet from the centre of the road. An owner has offered to give a strip of land which would enable the road to be made 24 feet wide to form a footpath with curb and channel if the council will lay the sewer and ballast and form the new piece of road. The question whether this was a new road within the meaning of the Private Street Works Act was raised at the Local Government Board inquiry and disregarded by the inspector, and the sanction for the loan has been received. The new water scheme referred to by you is an auxiliary scheme for distributing the water to the higher levels of the town. The main water scheme is finished, and the water which has been brought 18 miles from the centre of the moor is now running into the home reservoirs, and the formal opening is fixed for June. The total cost of this portion of the scheme is £120,000, and both Teignmouth and Brixham will be supplied from Paignton. The dispute as to the relative values of the three schemes submitted to the council is purely an engineering question and cannot affect the health of the town in any shape or form, but the fact that the council has decided to leave it in the hands of the engineer, who is responsible for and has carried out the main scheme, would seem to be the right course to have taken.

I consider the statement of your local critic as to illness in the town over-coloured and made upon hearsay evidence. My own son is one of those who are at present suffering from scarlet fever, and the most careful research fails to show how it was contracted or any connexion with the few other cases in Paignton. The question of an additional ward at the hospital should be considered to overcome any future difficulty caused by the wards being occupied by enteric cases, but I believe the fact that the hospital is empty for months at a time could easily be proved. Your correspondent has omitted to point out that last summer a large sum was spent on the outfall of the sewer, that a break was located and mended, and the sewer was carried 250 feet farther out to sea. With regard to the water, I can only say that I have never had to boil it and my Pasteur filter shows no trace or indication of any organic matter being contained in the water.

With regard to the infantile death-rate, it should be considered that the wealthy class in Paignton are largely people who come here after retiring from the army, navy, or business, and are therefore for the most part past middle life. It follows that by far the larger number of births are among the artisans and labouring classes amongst whom the rate is always high.

I am, Sirs, yours faithfully,

Paignton, April 4th, 1907. W. PIERPOINT ROBERTS.

EIGHTH INTERNATIONAL CONFERENCE OF RED CROSS SOCIETIES.

To the Editors of THE LANCET.

SIRS,—I have seen in THE LANCET of March 23rd an article on the subject of the forthcoming International Red Cross Conference. The statements it contains require correction. In regard to no official intimation of the conference having been given, an official notice was sent to you and was published in THE LANCET on Feb. 16th. It was also extensively circulated throughout the press of the country. I inclose a fresh copy of this notice which fully states who are responsible for the arrangements and where the meetings will be held. Further than this, you had on Feb. 2nd already published an article giving the same information, and in regard to the exhibition we advertised it in THE LANCET of, I believe, Feb. 9th.

I may add that all the Central Red Cross Societies who are entitled to send delegates to the Conference have been made fully acquainted with the manner in which it has to be conducted, that having been prescribed at the last conference at St. Petersburg in 1902.

In reference to your general remarks about this society perhaps you will allow me to send the inclosed pamphlet which explains its scope and origin. I shall have much pleasure at any time in providing you with the fullest information should you give me the opportunity, and I think you will find that the Conference will be conducted in every way in a manner worthy of the occasion.

Believe me, yours faithfully,

(Signed) J. DANVERS POWER,
Chairman, Conference Committee.

British Red Cross Society, 9, Victoria-street, London, S.W., March 27th, 1907.

*** We regret to have been misled with regard to the steps taken by the Red Cross Society for giving publicity to the Conference of 1907. We refer our readers to an editorial article in THE LANCET of Feb. 2nd, p. 311.—ED. L.

THE FREE FEEDING OF THE PARIS SCHOOL CHILDREN.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

THE RESPECTIVE ATTRIBUTES OF THE CAISSES DES ÉCOLES AND THE CANTINES SCOLAIRES.—THE AVERAGE COST OF THE MEALS.—THE ELIMINATION OF CHARITY.—THE GIGANTIC SCOPE OF THE EXPERIMENT.

TWO years and a half have elapsed since last I visited and wrote about the free feeding of the children in the elementary schools of Paris.[1] In the interval Mr. Birrell, as Minister of Education, stated in the House of Commons that the local authority in Paris provided food for the school children and that "it worked exceedingly well. The advantage of such a system," he went on to say, "was that the people raised their own standard of living very much and created in their stomachs a divine satisfaction. They could confer no greater service upon posterity than raising the standard of living of the children. If a child had good and nutritious food he or she would take care to see that in turn their children had good food also. He should be sorry to forbid by law a local authority from trying experiments upon a large scale, whether they were confined to the necessitous poor or not. It is done in Paris, and if it could be done there they in London should be able to do it also. In Paris ten and a half million meals were served last year, and, although it was difficult to ascertain what proportion of them were free, there was reason to believe that a very large proportion of them were given in exchange for payment." Mr. Birrell is not alone in failing to understand clearly the financial position of the Parisian *cantines scolaires*. Indeed, they have been confused with the *caisses des écoles* to such a point as utterly to misrepresent this important institution. What Mr. Birrell himself would consider a very large proportion of payments it is difficult to say, but I will give the actual figures and then it is probable many persons will, on the contrary, find that the proportion of payments is small.

A very instructive "Note relative au Service de Garde des Cantines Scolaires" was presented to the Paris Municipal Council by Councillor Hénaffe and was issued in February, 1907, as paper No. 11 of the official publications of the council. This document sets forth that in 1905 6,144,634 meals were served gratuitously and 3,184,669 in exchange for payments. Thus, at once, it is obvious that only one-third of the meals were paid for by the children or their parents. If, however, the details are studied it becomes evident that the proportion of payment is less. These details are interesting in themselves and apart from the question as to who pays. It will be remembered, as I described in my first report on the subject, that during the earlier experiments made at Paris the cost of the meals amounted to 25 centimes, or 2½*d.*, each. It was only after the acquirement of great skill and experience in cooking and in the management of the canteens that the cost was reduced to 1½*d.*, and this on condition that not more than from 20 to 25 grammes of meat, cooked and free from bone, was given. Now, for the year 1905 the average cost of the meals amounted to 0·171 franc each, or within a minute fraction of seven farthings each and a little more than two centimes above the usual estimate of 15 centimes or six farthings. But if the cost exceeded the estimate the payments were below. It is here that the part played by the administration of the *caisses des écoles* bears upon the subject. Paris is divided into 20 submunicipal districts called "arrondissements." Each has its *caisse scolaire*, and where the parents are called upon to pay for their children's meals the charge made by the *caisses scolaires* varies considerably. The maximum payments effected amounted to an average of 18 centimes in the fourth and to 17 centimes in the twelfth arrondissements. In the second, third, seventh, tenth, eighteenth, and twentieth the traditional average of 15 centimes was paid. In the remaining 12 arrondissements the average came to less than 15 centimes. In five districts it amounted to only ten centimes per meal. The average for all the 20 districts, including the fourth, where parents distinguished themselves by paying nine-tenths of a centime more than the actual cost, amounts to 0·138 franc. Thus, even where payment is effected, the sum given is on an average only about five and a half farthings out of the seven farthings spent, and this, I take it, refers to the food actually consumed. In any case, the material, the kitchen utensils, the plates, and the rent of the localities occupied are not included in this estimate of the cost of the meals. The total loss on the food consumed in the 20 districts by the children, for whose meals payments have been made by the parents, is put down for the year 1905 at 114,492 francs, or £4579. If to the actual cost of food the other attendant expenses are added, it may be said, speaking in round figures, that two-thirds of the children do not pay for their meals and that the remaining third receive from the public purse an annual subvention of close upon £5000 towards the cost of those meals for which they do effect payments.

M. Pierre Morel, municipal councillor, in his report on the *cantines scolaires* published in 1905, No. 60 of the official publications, gives the figures for the previous year, and they are very similar. Thus, in 1904, the free meals given amounted to 5,975,359, while those for which payments were made equalled 3,253,919, making a grand total of 9,229,278 meals. If we multiply this latter figure by 0·171 franc, the estimated average cost of each meal, we get the total of 1,578,004 francs, or £60,320. As the municipal subvention amounted to £40,800, it will be seen that here again the parents paid, roughly speaking, about a third of the total cost.

It has been said, however, that the cost of feeding the children was in a measure defrayed by the *caisses des écoles*. Then, as these school funds were originally provided by voluntary contributions, attempts have been made to infer that the feeding of the children in Paris was to a considerable extent the result of charity. Whatever opinion may be held as to what should or should not be done, nothing but mischief can result from a misrepresentation of facts, especially when, as in this case, they refer to the largest experiment that has been made in Europe. As already explained, the law of April 10th, 1867, distinctly states that the *caisses des écoles* will "consist of voluntary subscriptions, of subventions given by the commune, by the department, or by the State." At first voluntary subscriptions did constitute an important part of the receipts, but then the feeding of the children was not attempted. In the official "Note" mentioned above and written by the municipal councillor, M. Hénaffe, there occurs the following important passage:—

> If the figures given of the actual working of the *cantines scolaires* are compared, it will be seen that nearly all the *caisses des écoles* charge less for meals than they cost. This fact is explained by the willingness of the town of Paris to pay the difference and the large part it plays in assuring the existence of the *cantines scolaires*. You know that the *caisses des écoles* contribute towards these expenses only an insignificant sum, while the sacrifices made by the town of Paris are enormous, since its share in the expense of the canteens amounts to about 98 per cent. of the total.

This is a statement which may be challenged, not in regard to the principle involved but because certainly in many districts the contribution of the local *caisse des écoles* occasionally amounts to more than 2 per cent of the cost of the canteen. It is very difficult to make accurate comparisons, as the different districts have different methods of keeping their accounts and charge different prices for the meals they give. A unification of methods is much needed. As an illustration, however, of the objection to the 2 per cent. estimate I find that the *cantines scolaires* of the XIV. arrondissement, or district of the Observatory, cost for the year 1906 the sum of 85,000 francs, and the receipts consisted of a municipal subvention of 80,000 francs and a donation from the *caisse des écoles* of that district of 5000 francs. This latter sum obviously represents a great deal more than 2 per cent. of the total cost of feeding. But, on the other hand, it does not mean that these 5000 francs were derived from charity.

The charitable contribution towards the feeding of the children is much less than 2 per cent. of the whole cost. As the *caisse des écoles* of the XIV. arrondissement contributes a comparatively large sum, I will take it as an example of the working of the system. The local budget of this school fund for 1906 shows that the annual subscriptions are estimated at 3500 francs, and there are donations, often from wedding parties, to the amount of 450 francs, making a total of £158. But the annual subscriptions, generally of 10 francs, or 8*s.*, per subscriber, are given not so much as a charitable financial help—the real object is to secure the right to vote for the election of the committee of management which does so

[1] THE LANCET, Sept. 17th, 1904, p. 860.

much useful work for the benefit of the school children. Former donations and economies have been invested, and altogether they yield to this local school fund interest to the amount of 3700 francs annually. Then there is a subvention from the general council of the department of the Seine of 2400 francs and other very small items. The greatest of all sources of revenue is 21,000 francs derived from the letting of spaces in the streets to stall-keepers and showmen during local fairs. It has been pointed out that this is injurious to public health, for the streets or open spaces are overcrowded and cannot be kept so clean while these fairs last. Also the stalls injure the business of the neighbouring shop-keepers. The fairs, however, are still held because they amuse some people; but, above all, because the receipts derived therefrom are devoted to the school funds. Thus, in the XIV. arrondissement the total receipts from all sources for the school fund amounted in 1906 to 32,160 francs (£1286), of which sum 21,000 francs (£840) were derived from the rent charged to showmen, and there were subventions amounting to another 2650 francs, or £106. Deducting from the total receipts of £1286 the £148 interest paid on invested capital as being difficult to define, I will deal with the remaining £1136. Of this £946 come from one form or another of taxation and only £158 from voluntary subscriptions or donations. Smaller receipts, such as £34 paid by parents whose children joined the holiday excursion and the interest on invested capital, make up the total income of 32,160 francs, or £1286.

It will illustrate the working of the system and show what is the real function of these local school funds to mention how this money is spent. The largest item is 8500 francs spent in buying boots for the more needy school children. The money laid out on clothes, to a large extent pinafores, was not so considerable—namely, 5000 francs. In the budget of the XVII. arrondissement, or the Batignolles-Monceaux district, I find that 12,877 francs were spent on boots and only 4931 francs on clothes. Then in the XIV. arrondissement 2400 francs are entered as rewards to pupils, medals and other gifts, but for the most part these rewards took the form of opening accounts for the children in the savings bank, thus giving an object lesson in thrift. Honorariums to secretaries, &c., amounted to 2100 francs, the prizes given to the children for July 14th historical competition 600 francs, and printing, stationery, and small items brought up the total expenditure to 22,140 francs; thus a balance of 10,020 francs remained in hand. It was out of this balance that 5000 francs were given to the *cantines scolaires*. It will be seen that the bulk of the expenditure is outside of the school fund or *caisse scolaire*. This "outside budget," as it is called in the annual report of the *caisse des écoles*, is set forth as follows: maternal schools for children from three to six years of age, interest on invested money, £4; municipal subvention, £136; total receipts and total expenditure, £140. *Cantines scolaires* receipts: subvention from the municipality, £3200; contribution from the local *caisse des écoles*, £200; total receipts and expenditure for the feeding of the children in the elementary schools of the XIV. arrondissement, £3400. The school colonies or *colonies scolaires*, formed to enable weakly children to spend some time at the seaside or in the country, cost £580, but the municipality only gave a subvention of £360. The deficit of £200 was met by a contribution of that amount from the *caisse des écoles* and taken out of their £400 surplus. This is an illustration of the very general principle that feeding being the first of necessities the municipality gives by far the largest subvention for this purpose. The sending of children for health holidays in the country was left more to local effort and hence, as in this instance, the *caisse des écoles* contributed a much larger share of the expense. In the XVII. arrondissement the municipal subvention during the year 1906 for the holiday health excursions was £400 and the contribution from the local school fund £224. For the canteens the municipal subvention was 60,288 francs (£2411). The payments for meals by the parents amounted to 17,277 francs (£691). The total outlay was 94,501 francs (£3780). There was a very big deficit and the local school fund advanced £651 to balance the accounts. It may be of interest to note that out of this total of £3780 the food cost £2656 and the fuel £199, the rest being spent in furniture, utensils, cost of management, wages to servants, &c.

From the details given of these two local budgets it would seem that the contributions of the local school funds exceed 2 per cent. of the expenditure. Doubtless M. Hénaffe got his figures from the handsome volume published in 1900 on the occasion of the Universal Exhibition by the Paris municipal council describing all the educational services. Here, on page 171, there are some very interesting figures for nine years. From this statement it appears that in 1891 the municipality contributed 639,635 francs to the *cantines scolaires* and the *caisses scolaires* of the 20 arrondissements only gave 7540 francs. In 1894, however, they gave 36,472 francs and the municipality 787,660 francs. From that year the contribution from the school funds to the canteens decreased and that of the municipality increased till, in 1899, the school funds only gave 21,600 francs, but the municipality gave 1,017,695 francs; and in these latter figures we get the proportion of 2 per cent. mentioned in M. Hénaffe's report. During the nine years in question, 1891 to 1899 inclusive, the total amount contributed by the *caisses des écoles* towards the expenses of the *cantines scolaires* was 192,295 francs (£7691) and by the municipality 7,418,171 francs (£296,726).

On page 176 of the same official volume there is another important table. It compares for each arrondissement the number of pupils during the years 1892 and 1898, the number of meals they paid for, the number of meals they received gratuitously, and the average cost per meal. From this it appears that in 1892 the number of gratuitous meals was equal to 56·11 per cent. of the whole and in 1898 it was equal to 63·93 per cent. of the whole. To-day we have seen that it is a full two-thirds of the total. It is also shown that the meals to-day cost more than they used to do, for the average cost in 1892 is set down at 0·14688 franc per meal and 0·14843 franc in 1898, whereas to-day it is 0·171 franc. The tendency is to improve the meals, to give more meat, sometimes as much as 30 to 40 grammes, and thus more money is spent. This improvement will certainly increase as a higher class of children frequent the canteens and the impression gains ground that money can scarcely be better spent than in insuring the physical health and strength of the nation.

All these figures and calculations will, I trust, make the practical teaching of the Paris experience clear. The municipal councillors and others, whom I have recently seen at the Hôtel de Ville, entertain very little doubt as to the likely upshot. It is evident that only a third of the parents pay and then they do not pay the full cost of the meals their children eat. So that all the children and all the parents derive some advantage at the cost of the general ratepayer. When attempts are made to get more voluntary subscriptions for the school funds the persons solicited very often answer that they pay such heavy taxes that there should be no need to add to these any further sum. Not a few of the parents also, when it is pointed out to them that they should endeavour to pay for the meals given to their children at school, object that they are already paying through taxation, and this is perfectly true. Thus the number of those who individually pay for the meals have steadily decreased from year to year and it is already an open question whether the money thus obtained is worth the trouble of collecting. Its collection causes friction, creates invidious distinctions between individuals, gives rise to accusations or the suspicions of favouritism, necessitates somewhat inquisitorial investigations into the private concerns of numerous families to ascertain who should and who should not pay, and occupies a large staff of persons on an unpleasant and unproductive investigation. Then why should a workman who is just a little better off than his neighbour, because, for instance, though earning the same wage he has two children instead of three, be made to pay twice over for his children's meal, once to the *caisse scolaire* of his district and once to the rate collector? The section of the population that can and does pay for their children's meals are beginning to realise that it would be very much to their advantage if the entire cost was defrayed out of public funds. For instance, the canteens cost rather more than £60,000 a year and a third of the parents pay rather less than a third of this sum directly to the schools but they also pay their share of the £40,000 municipal subvention. It would evidently be cheaper to pay only a slight increase in municipal taxation.

The old argument that the free feeding of the children would weaken parental responsibility has quite died out in France, where every adult male has a vote and all pay the municipal taxes. Parents exercise their sense of responsibility by voting as intelligently as possible in their children's interest. As a consequence, not only is the municipality

approved in spending £40,400 on feeding the children, but there is another subsidy of £40,400 which is divided among the maternal schools, the health colonies, various homes for orphans, and different institutions connected with primary education. The teaching itself is, of course, obligatory and gratuitous and all the other services connected with the schools are likely to become equally gratuitous.

Such a tendency in England would doubtless not fail to excite much opposition. It was in 1884 that children attending the Paris elementary schools were first fed on a large scale at the public cost. Paris has therefore had 23 years of practical experience of what has not yet been done anywhere in England. But a law has now been passed. The Provision of Meals Act of 1906 empowers the English school authorities to take some steps in this direction. All the arguments now brought forward in England against the free feeding of children were heard in France a quarter of a century ago. What has become of such arguments in the face of practical experience is shown by the facts and figures given above. Some will be tempted to deplore the result; none can afford to ignore this Paris experience, for it constitutes the greatest object lesson that has ever been given on the subject. The Paris experiment is not as radical as that attempted by the municipality of Vercelli where, as already described,[2] every child is compelled to take his midday lunch at school and no parent is allowed to pay, but then Vercelli is quite a small place, while Paris is the second largest town in Europe. In 1905 there were in Paris 202 public schools for boys and 202 public schools for girls. The number of pupils inscribed were 79,698 boys and 74,124 girls. Of these 24,023 boys and 14,157 girls attended school during the holidays, where they were watched and fed but not taught. The allowing of children to play in the school building instead of the streets during the holiday is an excellent measure to keep them out of mischief and to insure their being properly fed. Altogether the town of Paris spends on primary education about £1,280,000 and the feeding of the children does not amount to one-thirtieth of the entire outlay. The cost is therefore in no wise to be compared with the importance of the service. The benefits to public health and to the growing intelligence of the pupils are generally recognised to be out of all proportion compared with the expenditure; no outlay has ever given better results.

Of course, the feeding is but part—doubtless the most important and expensive part—of a whole system of physical education. One advantage of the meal at school is that when the attending school physician prescribes a special diet or certain medicaments with the meal the pupil gets them. At home such medical instructions would not always be as punctually executed. Then the great harm done by calisthenics when imposed on starving school children is avoided, because in the Paris schools the children cannot starve. Finally, when consumption and other diseases may be avoided by sending the child to the country or seaside this can often be done as there is a large municipal subvention for that purpose. If we compare the completeness of all these measures, the care with which they have been combined to supplement each other, with the comparative chaos that prevails in the English elementary schools, it is not surprising to find that so much more is said about physical degeneration on the British than on the French side of the Channel.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Slums.

THE medical officer for the Northwich urban district in his annual report makes some interesting remarks on the effect of "slums" on the health and *morale* of the population. He believes that proper housing would lower the mortality by more than one-half, would decrease infectious disease by three-fourths, would sweep away nearly all the anæmic, undersized, scrofulous beings who now crowd our alleys, almost stamp out tuberculosis, and do much to elevate the moral and mental refinement of the bulk of the people and lessen the need for workhouses, prisons, asylums, sanatoriums, epileptic colonies, and hospitals. This is a long catalogue of benefits, and perhaps a somewhat optimistic view, but there is no doubt that the evils named, with their accompanying wretchedness, would be greatly alleviated if houses were light, airy, and wholesome, and overcrowding was abolished. It is to be feared, however, that no improvement would follow very rapidly. The "residuum" is not yet educated up to a very high level, and his instincts are not those of a high civilisation. Also it is a splendid notion to "check the erection of slums by the jerry-builder, and provide houses of a proper character for those who need them." But unfortunately that kind of work in Manchester has proved costly to the ratepayers, and municipal enterprises do not seemed to be managed with the care and economy necessarily exercised in private ventures.

Afraid of a Hanging Man.

A strange incident came to light at the coroner's court the other week when the death of a man by hanging was being inquired into. He was 75 years of age, and was found by his niece suspended by a rope to a clothes' rack. She did not cut him down, nor did her husband, as they said "they were too unnerved." The coroner suggested that they wanted to be quite sure the man was dead. "He looked as if he was dead." They sent for a policeman who came in half an hour. "So you left him for half an hour?" "Yes, sir." Speaking to the jury, the coroner said that some day a verdict of manslaughter would be brought against people who left anybody hanging and did nothing. Such an occurrence as this shows a degree of mental and physical unreadiness enough to make one almost hopeless as to the future of a large proportion of our urban population. In any emergency, instead of being alert and ready to act promptly, they are timorous to imbecility. It is to be presumed that both the niece of the poor suicide and her husband have shared the blessings of the education that has been so liberally imparted for the last 30 or 40 years, but what effect has it had in giving them character or courage? It would have been well if the man had gone through such an amount of military drill as to bring out some of the readiness to act that the book knowledge which he must be supposed to have imbibed evidently failed to give. The verdict was one of "*Felo de se*," and the jury gravely agreed with the remarks of the coroner as to "the folly of leaving anybody hanging."

Dirty Milk.

The farmers of Saddleworth are indignant at charges having been made of uncleanliness in their dairies and carry the war into their customer's country by complaining that some of them are anything but cleanly. They say that jugs are used for days together without being washed, and if the farmer protests he is told that they *must* be clean because they have had nothing else in them but milk. Sometimes, say the purveyors, customer's milk has to be poured into old salmon tins and jam pots. It is difficult to eradicate habits of slovenliness and dirt which have become habitual to too many of the working population, and there need be no wonder that the farmer sometimes hits back.

April 9th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

The St. Andrew's Ambulance Association.

A POINT of considerable importance, more especially to those interested in ambulance work in Scotland, has been raised by the action of the Order of St. John of Jerusalem in petitioning the Privy Council for a supplementary charter to enable it to establish priories in Scotland. The St. Andrews Ambulance Association has lodged a counter-petition submitting that the power to establish priories in Scotland would, if granted, be detrimental to the interests of the public and unjust to the Association. The St. Andrew's Ambulance Association was established in 1882 with the object of providing instruction in ambulance work in Scotland and rendering first-aid to the injured and a Royal Charter of incorporation was granted in 1899. The Association has been very successful indeed in carrying out the objects for which it was incorporated, and has now come to be recognised as an important charitable and philanthropic institution. An ambulance corps of 2500 officers and men has been distributed in sections throughout Scotland and the corps is rapidly increasing in numbers. Upwards of 400 classes are conducted by the Association every year and the area of instruction embraces

[2] THE LANCET, Nov. 10th, 1906, p. 1308.

the whole of Scotland, extending even to the outer Hebrides and the remote parts of Caithness, Sutherland, Inverness, and Argyll. In connexion with these classes the association has issued more than 72,000 certificates of proficiency in first-aid to the injured, over 20,000 medallions for advanced students in first-aid, and nearly 2000 certificates of proficiency in home nursing and hygiene. Throughout Scotland 42 centres of the Association have been established, and a service of ambulance wagons has been provided in every considerable town in which a police ambulance service does not exist. In Glasgow, for example, the whole ambulance work of the city and neighbouring burghs is done solely by the wagons of the Association, and it is believed by us in Scotland that no finer ambulance service exists in any part of the United Kingdom. The calls attended to by the association's motor and other ambulance wagons in Glasgow alone amount to 12·44 daily. The association has further trained the constabulary throughout Scotland in giving first-aid, so that there are now few places in Scotland where this cannot be obtained from the police. During the late South African war the Association equipped and sent out a base hospital of 520 beds, and it is now recognised by the army and navy as an institution with which these authorities can enter into direct relations for the supply of men and material in case of emergency. In addition the association has recently been intrusted by the British Red Cross Society with the organisation of its work in Scotland. As the Association has for so many years done such excellent work and appears to be capable of efficiently meeting all requirements, it seems only reasonable to ask that the Order of St. John should not be allowed to initiate new centres of ambulance work in Scotland, and thus engender rivalry and competition which could not but be detrimental to the interests of ambulance work in general. Those who control the affairs of the Order of St. John are of opinion that the St. Andrew's Ambulance Association should become merged in the Order as a department charged with ambulance work in Scotland. This view the Association refuses to accept as being in derogation of its charter, and likely to cripple seriously the work it has carried on so successfully for 24 years. But the Association has gone so far as to offer to act as the Order's ambulance department in Scotland, it being understood that by so doing the charter of the Association would not be invalidated. It is earnestly to be hoped that the Order of St. John will not persevere in any high-handed fashion with its claims. The St. Andrew's Ambulance Association has done the spade work in Scotland for 24 years, and now when, thanks to its efforts, the public in Scotland are waking up to the value of ambulance work the Order of St. John proposes to step in and reap the fruits. That, at any rate, is how the matter must appear to us. There can be no doubt that the granting of the petition of the Order of St. John will be bitterly resented by those who have given their time and money to developing the St. Andrews Ambulance Association.

Glasgow Royal Infirmary: Post-Graduate Classes.

The summer course will this year be a short but very complete one, including, besides instruction in general Clinical Medicine by Dr. J. M. Cowan and in Clinical Surgery by Mr. J. H. Pringle and Dr. H. Rutherfurd, the following special subjects: Symptomatology of the Nervous System, by Dr. Walter K. Hunter; Surgical Diseases of the Urinary Organs, by Dr. David Newman; Gynæcology (A), by Dr. J. K. Kelly; Gynæcology (B), by Dr. G. Balfour Marshall; Diseases of the Eye, by Dr. H. Wright Thomson; Diseases of the Skin, by Dr. Alexander Morton; Diseases of the Throat and Nose, by Dr. Robert Fullarton; Anæsthetics, by Dr. J. King Patrick; Gynæcological Pathology, by Dr. W. D. Macfarlane; Operative Surgery, by Dr. Peter Paterson; and Bacteriology, by Mr. David McCrorie. These courses will be thoroughly practical, the amount of material at the disposal of the teachers being so large that they have every facility of illustrating their lecture demonstrations by clinical cases. During last year the attendance on the various courses was most encouraging. The attendance at the classes (not including members of the staff) numbered 137 members. It is therefore very desirable, in order to facilitate arrangements, that members of the profession who wish to join any of the classes should communicate as early as convenient with the superintendent, who will enrol members and supply any information desired.

April 9th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Association for Housing the Very Poor of Dublin.

THE annual meeting of the Association for Housing the Very Poor of Dublin was held at Trinity Chambers on April 8th, Sir Lambert Ormsby, the chairman, presiding. This is a small company, but it has already done work that is much needed, for it is recognised that the wretched state of the tenement houses is one of the chief causes of the high mortality in the city. Sir Charles Cameron complimented the association on the way the tenements in its charge were kept and said that although those in Derby-square were reconstructed houses, the rooms were model ones and sanitary in every detail. A dividend of 3 per cent. was declared on the capital of the company.

The Public Health of Belfast.

At a meeting of the public health committee held on March 28th, the medical officer of health reported on certain insanitary areas, and it was decided to appoint a subcommittee to visit these localities and to draw up a report and recommendations for the consideration of the health committee. On April 25th and following days it is proposed to take evidence before the Health Commission in reference to the Belfast water. For the week ended March 23rd the death-rate was 23·5 per 1000. At a meeting of the city corporation held on April 2nd it was reported that between Feb. 17th and March 16th the large number of 302 cases of infectious disease had been notified—viz., 64 enteric fever, 58 scarlet fever, 28 simple continued fever (evidently typhoid), 4 puerperal fever, 27 diphtheria, 1 croup, 19 erysipelas, and 104 cerebro-spinal meningitis. There were 263 deaths registered from chest diseases. The average annual death-rate was 23·7. These returns show a very high number of infectious diseases notified and suggest that, as so often happens in Belfast, another epidemic of typhoid fever may be coming. A very decided opinion was expressed by many members of the corporation against the waste of money in employing counsel at the Health Commission. It was finally settled to agree that the Lord Mayor should let the chairman of the public health committee know what were the ideas of the members of the council in regard to their being legally represented at the Commission. A very curious point was referred to—that was a resolution appointing a deputation of the public health committee to visit some towns in England and Scotland with a view to ascertain methods of public health administration—in other words, a resolution to send Belfast officials to other cities to learn their business.

The Belfast City Fever Hospital.

Dr. G. Orr, medical officer of Ballylesson Dispensary, has reported to the Lisburn board of guardians at a recent meeting that since the establishment of the Purdysburn Infectious Hospital in his district he has had to register all the deaths which took place in that institution. This entailed hardship on the relatives of the deceased who had to travel another mile after their journey of two or three miles from the nearest train to the hospital. The dispensary patients were naturally alarmed at the presence of people from all parts of Belfast who came to register deaths from infectious diseases, a feeling much intensified by the occurrence of two deaths from cerebro-spinal fever in the neighbourhood, one case being that of the dispensary caretaker and the other of a boy who two days previously had been in the dispensary for some medicine. It is clear that the Registrar-General will have to constitute the hospital a special Belfast district, so that a resident official may be appointed registrar and thus avoid the evils referred to.

Rainfall in Belfast in March.

In March 4·89 inches of rain fell on 21 days, making the amount for the year 1907, so far, 9·78, which is a little above the average amount.

The Health Commission in Belfast.

The Belfast Health Commission resumed sitting on April 8th, when Sir John Byers was examined at both sittings on that day and again on Tuesday. He dealt very fully with the various problems confronting Belfast and made a number of suggestions for establishing a really efficient modern public health department in Belfast.

April 9th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Police and the Preservation of Water-courses.

THE Minister of Agriculture has appointed a commission to study the recently proposed legislative and administrative measures to complete the existing laws concerning the preservation by the police of non-navigable water-courses, springs, and underground water, with a view to safeguard them for useful purposes; the commission will be presided over by the Minister of Agriculture.

An Unusual Case of Epithelioma.

The case occurred in a young girl, aged 22 years, who had already been twice operated upon for a cyst of the lower jaw. In spite of repeated cauterisation a suspicious ulcer had persisted and enlargement of the glands was noticed. On further examination a solid tumour was found over the ascending ramus of the maxilla. M. Morestin operated through the mouth and completely removed half the lower jaw, besides extirpating the diseased cervical glands. There has been no recurrence during two years. The tumour proved to be an epithelioma of stony hardness and is an instance of the metamorphosis of a cystic tumour to a solid one. M. Mauclaire, who communicated this case to the Société de Chirurgie (March 27th) in M. Morestin's name, is inclined to question whether the total resection that was performed was really absolutely necessary.

Gift to the Academy of Medicine.

The Academy of Medicine has been given authority to accept, under the conditions and terms expressed, the legacy left it by M. Roussilbe, the interest of which is to be devoted to the foundation of a prize to be awarded periodically to the investigator who shall make the greatest advance in dermatology. The prize is to be known by the founder's name.

A Method of Inducing Hæmostasis in Hæmophilia.

Dr. Emile Weil has shown that fresh animal or human serums in doses of three drops to the cubic centimetre of blood induce coagulation to a moderate degree in hereditary hæmophilia and completely in the idiopathic disease where normally the blood would coagulate in five or ten minutes. In practice, to stop or to prevent hæmorrhage in an adult hæmophile from 10 to 20 cubic centimetres should be injected hypodermically. Rabbits' blood should be used for this purpose. This method was communicated to the Chirurgical Society on March 6th by M. Broca on behalf of Dr. Emile Weil.

Boulimia (Sitomanie).

At the Neurological Society on March 7th M. Gilbert Ballet recalled the fact that when two cases of boulimia were shown at a previous meeting he had opposed the opinion of other authorities that this disease was an impulsive psychosis and had tried to prove that, on the contrary, it belonged to the intermittent variety, particularly to melancholia. A third case that he had recently seen, in which the boulimia was followed in a fortnight by typical melancholia, gave support to his theory of its pathogenesis. M. Dupré replied that it would be better not to say that boulimia was a variety of melancholia but that the two diseases might be associated, for otherwise phenomena of excitement and depression would seem to be developed simultaneously.

Fatal Influenzal Pneumonia and Enteritis.

At the Hospitals Medical Society on March 22nd M. Siredey and M. Tinel reported two cases of patients suffering from influenzal pneumonia, who both developed symptoms of severe enteritis, with frequent and excessive diarrhœa, the stools being of a mucous character and followed shortly by collapse and death. They compare these to two other surgical cases where death occurred in a similar manner, but these latter were not followed with so much care as their own and they can only be quoted to show that this affection forms a more frequent complication of influenza than is generally believed. From cultures made from stools the authors were able to isolate two varieties of micro-organisms whose characteristics were ill-defined and did not conform to any known type.

April 8th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Report of the Medical Officers to Schools.

Professor Hartmann, the chief medical officer to the Berlin municipal schools, has presented his annual report to the Berlin municipal authorities. The report states that there are 36 medical officers to the Berlin schools, which are attended by 225,237 children. There were 32,902 children examined by the medical staff previously to their entering a school and 3056 of them were refused admittance on the ground of suffering from various bodily and mental diseases. Of the new pupils 7335 were put under special supervision, and these added to the number already under special supervision made up a total of 29,622 children in this category. The report mentions that a good understanding prevailed between the medical officers and the teaching staff; the parents, however, sometimes thought that it was a part of the duties of the medical officers to attend their children in cases of illness. Even teachers in several instances held this erroneous opinion and sent sick children to the private consulting rooms of the medical officers. In Berlin the children were examined in the presence of the mother or some other relative and if found to be healthy no other examination took place. The parents were in general very grateful for suggestions made by the medical staff as to preserving the health of the children and they listened attentively to the advice given to them during the examination of the children. They also received a pamphlet, published by the Berlin Society for School Hygiene, containing the principles of hygiene for children. This pamphlet was, moreover, posted on the walls of the schoolrooms. The report then gives particulars with respect to recent improvements in the ventilation, heating, and sanitary arrangements of the schools. An inquiry was held in one school on the use of spirituous liquors by children and it was ascertained that 2 per cent. of the children took spirits regularly, while 2·1 per cent. took wine and 8 per cent. took beer. A special investigation on the hours of sleep was also carried out by one of the medical officers. He found that 10 per cent. of the children went to bed later than 10 P.M., and he argues that the schools in Berlin begin at too early an hour—namely, at 7 A.M. in summer and 8 A.M. in winter. From 10 to 20 per cent. of the children go to school without having had a warm breakfast. About 40 per cent. of them sleep together with other persons in the same bed, either with their parents or with brothers and sisters, and the report draws attention to the fact that this custom is open to several objections, both of a moral and of a hygienic nature. The prevalence not only of diphtheria, scarlet fever, and other acute diseases, but also of tuberculosis, is, of course, greatly favoured by this practice. In the next place the report deals with the subject of employments in which school children are engaged. It is stated that a great many of them earn money, especially by going on errands, and some of them are at work early in the morning before school begins, the consequence being that they are very tired and inattentive during lessons. The teeth of the majority of the children proved to be very much neglected; only a minority of them brushed their teeth and of these only very few had a tooth-brush of their own, most of them using one in common with other members of the family. The report then gives particulars as to the prevalence of infectious diseases and the temporary closing of schools as a preventive measure during epidemics of scarlet fever, diphtheria, &c. It will be seen from the above summary that the report of the medical officers to the Berlin schools contains a great amount of valuable and interesting material and that although their office is of recent creation these gentlemen have done a good deal to improve the health of the children.

Commemoration of the Discovery of the Tubercle Bacillus.

Professor Löffler, writing to the *Deutsche Medizinische Wochenschrift*, draws attention to the fact that on March 24th it was 25 years since Professor Robert Koch made his first public announcement with respect to the etiology of tuberculosis. For personal reasons it was before a rather small society—namely, the Physiologische Gesellschaft—that he read his celebrated paper which on the agenda of the proceedings figured modestly as "An Address on Tuberculosis by Dr. Koch, Member of the Imperial

Health Office." The address was illustrated by microscopical specimens and contained suggestions for the prevention of tuberculosis on lines similar to those in every-day use at the present time. Arrangements have been made for creating a memorial to commemorate this great discovery.

Small-pox.

The epidemic of small-pox which is at present prevailing in France has passed the Franco-German frontier and the disease has made its appearance, especially at Metz. A considerable number of cases have occurred there, but to the annoyance of the adversaries of vaccination it is found that the disease attacks only persons who have not been vaccinated. In the frontier districts and in Metz also there are a great many foreigners who have come from countries where vaccination is either not compulsory or else is not efficiently performed. In Metz and its neighbourhood thousands of Italian workmen live who are employed there, as in a great part of the continent, in the building trades. As they are neglectful of vaccination and as their standard of living is inferior to that of the native population they are peculiarly liable to contract small-pox. The disease is also of frequent occurrence among the French and Belgian residents in Metz, whilst the German inhabitants, who have all undergone vaccination, are exempt. The French newspapers have called attention to these facts and are recommending compulsory vaccination after the example of Germany where small-pox, apart from the frontier districts, has been quite unknown for years.

April 8th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Pulmonary Tuberculosis in Budapest.

Dr. Gustav Thirring, director of the city statistical bureau, has published the details of last year's death-rate from various diseases in Budapest. He states that during the last 32 years 85,813 of the inhabitants died from tuberculosis, this disease accounting for 22 per cent. of all the deaths. Owing to recent improvements in the hygienic conditions of the city the death-rate from tuberculosis is now considerably lower than in former years. In 1876 the proportion of deaths caused by this disease was 855 per 1,000,000 of the population, but last year it averaged only 373 per 1,000,000. The death-rate of men is much higher than that of women. The unmarried are much more liable to death from pulmonary tuberculosis than the married of either sex. The death-rate from tuberculosis was comparatively low in districts inhabited by the wealthy classes but was very high in districts where the poor live in flats and where the accommodation for a family consists either of one room or at most of two rooms.

Tragic Death of a Medical Man's Wife.

In Brassó, a large country town in Hungary, the wife of a medical practitioner—Dr. Fiechsenbaum—became ill and it was absolutely necessary that an operation should be performed. Her husband wished her to go to a sanatorium where a member of the staff would do what was required, but she insisted on her husband performing the operation himself, because she would not on any account let another man touch her. He therefore telegraphed for another medical man, a relative of hers, and the two proceeded to perform the operation at the patient's home. It was almost completed when a serious hæmorrhage occurred, which they were unable to check, so that the patient died on the operating table. The unfortunate husband is prostrated with grief.

Medical Organisation in Hungary.

In the Budapest Medical "Casino" Dr. Turán Bólog recently delivered a very interesting address on the subject of the influence exercised by the various medical organisations on the social, ethical, and material position of the profession at home and abroad. He said that it was of great importance to the community at large that medical education should be efficient and that public hygiene should receive proper attention; the position of the medical profession, therefore, could not be a matter of indifference for the State. He maintained that the status of the medical profession was unsatisfactory in most parts of Europe but that its prospects were best in the industrial countries where the standard of living was good and where culture and public health were at a comparatively high level. Of the various professional organisations the best results were shown by voluntary associations built up on a sound economical basis. The prospects of the medical profession in Hungary were gloomy and would be further aggravated by the poverty of the people, by the extension of the system of insurance against sickness (*Krankenkassen*), and especially by the new Workmen's Compensation Act. Improvement could be expected only from organisations which also served at the same time the community at large.

Hungarian Surgeons on Board Cunard Steamers.

According to the Hungarian emigration law every vessel carrying over 500 emigrants from Hungary must have a Hungarian surgeon on board. This regulation has a particular reference to the Cunard steamers, which carry twice a week more than 1000 Hungarian passengers from Fiume. Hungarians have, in fact, been employed as second surgeons on the Cunard steamers since 1904, but none of them look on their appointments as permanent because they see that a position of that kind held for many years would be almost unbearable. In the first place, they have no prospect of advancement because the company holds out no hope that they will ever be transferred to saloon steamers, in which the pay is higher and in which extra fees may be received. Another grievance is that the Hungarian law orders the ship surgeons to send information to the Government about the state of health of the emigrants, whereas the Cunard Company strictly prohibits the giving of information. The Hungarian surgeons are also subordinate to the captain and some others of the ship's officers, as well as to the English surgeon. The pay is very little—only 6*s.* 8*d.* a day, with full board. Dr. Henrik Neumann, who was in the Cunard Company's service for two years, has therefore asked the Board of Physicians to negotiate with the company with a view to improve the position and to increase the pay of the Hungarian ship surgeons.

April 6th.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following is the list of prizes awarded for the winter session, 1906–07:—Descriptive Anatomy: Junior: J. T. Duncan, first prize (£2) and medal; and T. Dowzer, second prize (£1) and certificate. Senior: H. G. P. Armitage, first prize (£2) and medal; and W. Swan, second prize (£1) and certificate. Practical Anatomy: First year: T. M. Thompson, first prize (£2) and medal; and F. W. Warren, second prize (£1) and certificate. Second year: W. Swan, first prize (£2) and medal; and H. G. P. Armitage, second prize (£1) and certificate. Practice of Medicine: C. Greer, first prize (£2) and medal; and G. S. Levis, second prize (£1) and certificate. Surgery: G. S. Levis, first prize (£2) and medal; and W. R. Burton, second prize (£1) and certificate. Midwifery: H. W. White, first pize (£2) and medal; and G. S. Levis, second prize (£1) and certificate. Physiology: H. M'Adoo, first prize (£2) and medal; and O. G. Connell, second prize and certificate. Chemistry: P. F. Crowe, first prize (£2) and medal; and J. T. Duncan, second prize (£1) and certificate. Pathology: I. Scher, first prize (£2) and medal; and C. Greer, second prize (£1) and certificate. Physics: J. T. Duncan, first prize (£2) and medal; and T. Buckley, second prize (£1) and certificate.

LITERARY INTELLIGENCE.—The third edition of Vol. II., Part 3, of Allen's Commercial Organic Analysis is just ready for publication. The subjects dealt with are: Acid Derivatives of Phenols, Aromatic Acids, Resins and Essential Oils. Much of the work of revision has been done by Mr. A. R. Tankard, F.C.S., deputy agricultural analyst for Monmouthshire and the county borough of Newport. With its issue the complete work in eight volumes may now be procured. The publishers are Messrs. J. and A. Churchill.—Messrs. Baillière, Tindall, and Cox announce that they are publishing a third edition of "The Diagnosis and Modern Treatment of Pulmonary Tuberculosis, with Special Reference to the Early Recognition and Permanent Arrest of the Disease," by Dr. Arthur C. Latham; a fifth edition of "Treatment by Hypnotism and Suggestion, or Psycho-Therapeutics," by Dr. C. Lloyd Tuckey; and a work on "Meat and Food Inspection," by Dr. W. Robertson, medical officer of health of Leith and Perth. The same firm has published a second volume completing the "Manual of Anatomy (Systematical and Practical)," by Dr. A. M. Buchanan, professor of anatomy, Anderson's College, Glasgow, and a work on "Ulceration of the Cornea" by Dr. Angus Macnab, chief clinical assistant to the Royal London Ophthalmic Hospital.

Obituary.

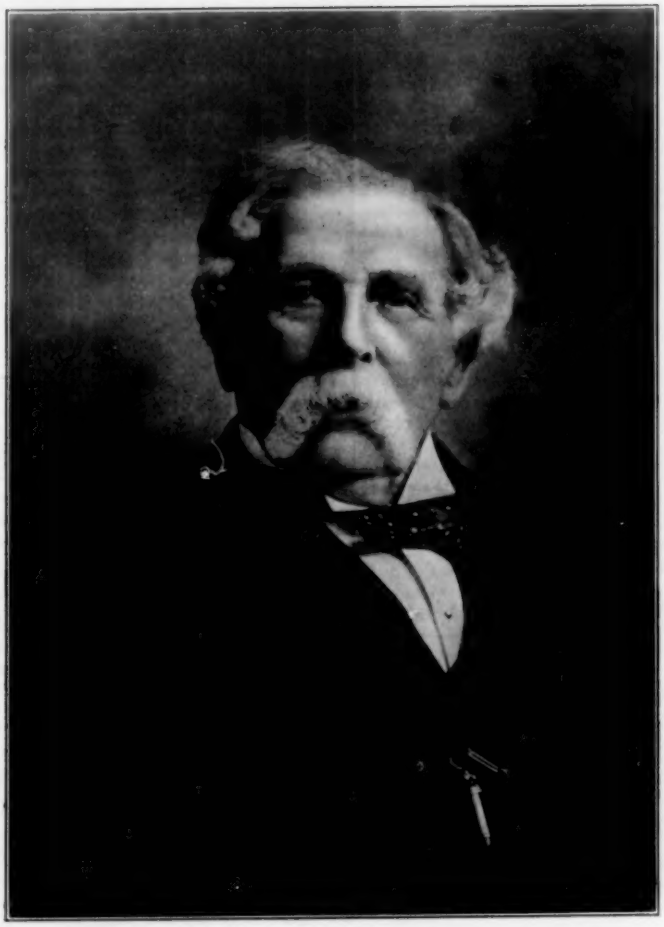
THOMAS HENRY WAKLEY, F.R.C.S. ENG.,

SENIOR EDITOR OF THE LANCET, CONSULTING SURGEON TO THE ROYAL FREE HOSPITAL, AND JOINTLY SENIOR FELLOW OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

WE regret to announce the death at his residence in Queen's-gate of Thomas Henry Wakley, the senior proprietor and editor of this journal. Thomas Wakley (he deliberately made no use of his second name) was born on March 20th, 1821, and had therefore passed the eighty-sixth anniversary of his birthday by a few days when he died. He was the eldest of the three sons of Thomas Wakley, the well-known coroner and Member of Parliament, who, by founding THE LANCET, inaugurated a movement for medical reform the extent of which can hardly be realised, especially as revolutionary movements at present taking place are the direct outcome of his original programme. He dropped the use of "Henry" in his name possibly because his next brother, Henry Membury Wakley, also bore the name, but with more probability because the great affection and reverence in which he held his father made him prefer to be called, like him, simply "Thomas Wakley." THE LANCET made its first appearance two and a half years after the birth of the founder's son, the subject of this memoir, but that the son should succeed in the father's footsteps as editor of the journal, which grew up with him, was in a certain measure an accident. Thomas Wakley was educated with the intention that he should enter the Church, and with this view was carefully tutored in the classics preparatory to his matriculation at Oxford. It is a point of interest that his private tutor was the Rev. James Basnett Mills who was also private tutor to the famous Platonist and Master of Balliol, Benjamin Jowett.[1] As a lad Thomas Wakley showed great aptitude for the *litera humaniores*, but his connexion with the University of Oxford was extremely brief. At the time of his matriculation his father was a leading Radical, one of the foremost in the House to promote the more reasonable part of the Chartist programme without actually subscribing to Chartist doctrines. But such emancipated opinions were not acceptable at Oxford, where young Wakley found the political and social creed which he had been brought up to admire regarded as not very distinguishable from high treason. Fortunately, the University of London had been founded a few years previously as a practical protest against the limitations of the older universities every whit as much as with the idea of promoting the cause of metropolitan or imperial education, and to the University of London Thomas Wakley took himself, selecting the medical faculty of University College for his labours and giving up all idea of the Church. In these days the medical teachers or professors of University College were an extremely distinguished band, numbering among them Samuel Cooper, of the Surgical Dictionary; Liston, the most marvellous operator in London; Richard Quain, the author of the Anatomy of the Arteries; Anthony Todd Thompson, author of "The Dispensatory"; Robert Carswell, the famous pathologist; Robert Grant, the comparative anatomist; and Sharpey, the leading physiologist of the day. An industrious student had extraordinary opportunities at such a school, and young Wakley became known to more than one of his teachers as a promising pupil, showing in particular great aptitude for surgery and surgical anatomy. He was also admirably coached, for his father, with the same determination that had previously led to the selection of Mr. Mills as a classical coach—a determination, namely, that the young man should enjoy the best possible educational advantages—now persuaded Erasmus Wilson, at that time lecturer on anatomy at the Middlesex Hospital, to read with his son. Wilson and his pupil got on well together and Wakley acted as demonstrator at his coach's private classes with great benefit to himself. In the year 1845 he took the diploma of Membership of the Royal College of Surgeons of England, having previously proceeded to Paris in deference to his father's views that the scheme of medical education enjoyed by the Parisian students was preferable to that of the London medical schools.

In Paris he lived most of the time of his sojourn with Dr. J. Henry Bennet, the gynæcologist, and was an assiduous attendant at all the clinics of the best operating surgeons in the city. When he was not engaged in his medical studies he spent his time and his money in taking music lessons (from Garcia among other masters) with the result that when he returned to England he was a trained musician and good French scholar as well as a surgeon of large experience considering his age. His knowledge of French to his regret deteriorated, but he retained his love of music during all his life; indeed, so lately as 1903, on the occasion of the marriage of a very near relative, he composed a wedding march which, we believe, attained a considerable amount of favour. In the year 1848 he was elected assistant surgeon to the Royal Free Hospital, a hospital which was started in 1828 in a building at Hatton-garden as a protest against the system of letters by which the subscribers to the medical charities of London were able to dispense patronage upon exclusive principles. This hospital made a great stride forward in 1842 when it was removed to its present site, and the appointment formed an admirable opening for a young consulting surgeon. Wakley entered into the spirit of his duties with enormous enthusiasm. He felt that he had got his chance while he was quite a junior man, but, although he was by no means blind to the advantages of having his father and THE LANCET at his back, he now set out with the deliberate intention of making a name for himself in surgery. He took a house in Guilford-street so that he might be quite near the hospital and for several years became, more or less on his own initiative, casualty surgeon to the institution. His house was so near to the hospital that it was inevitable that the resident staff should appeal to him in all cases of difficulty, and he was delighted with the opportunities which he thus got for increasing his experience. But

[1] Early in its career THE LANCET was printed and published in Fleet-street by the firm of Mills and Jowett, and Mr. J. B. Mills and Professor Jowett were respective sons of the members of the firm.



THOMAS HENRY WAKLEY, F.R.C.S. ENG.,
SENIOR EDITOR OF "THE LANCET."

he was soon to find that the value of having a distinguished father might be considerably discounted if that father happened to be an aggressive man. Many of our readers know the literary and business methods which characterised the first 25 years of the life of THE LANCET. The journal was founded to remedy the numerous abuses from which members of the medical profession suffered in their professional life, and on all occasions the founder and editor took the shortest course towards the results which he wished to attain. He minced words with no one, he spared no man's feelings, he did an incalculable lot of good, he made a great many distinguished friends, but he also raised up a host of enemies, many of them well-known and influential people who quite honestly regarded his methods as pernicious. Now if there was one point upon which the editor of THE LANCET was more clear and more eloquent than another it was the mischief done at the metropolitan hospitals by the appointment through nepotism of the wrong men to fill the posts on their staffs. When, therefore, the son of the editor of THE LANCET, while still a young man and with a record for work behind him which had largely been accomplished in another country, was appointed to the staff of the Royal Free Hospital, all the critics of THE LANCET, honest as well as prejudiced, were prepared to consider that the appointment was an example of the very abuses against which THE LANCET was never tired of fulminating. Young Wakley soon became conscious that his hospital practice was attracting an amount of interest not usually manifested in the work of so young a practitioner, and when the opportunity of the opponents of THE LANCET came he was not found unprepared. Wakley was accused of malpraxis in a case of fracture in a child complicated with scarlet fever. He refused to pay blackmail to the parents and disregarded the publication of a scurrilous and indecent pamphlet purporting to be a record of the case, although this was hawked about the street where he lived. An action was at length brought *in formâ pauperis*. The accusation came at an extremely unfortunate moment for Wakley, as he had intended to present himself at the end of the year 1849, just about the probable date of the trial, for his final examination for the Fellowship of the Royal College of Surgeons. Moreover, it was reported that some of the examiners had been subpœnaed to appear for the prosecution. At this juncture Wakley displayed great powers of resolution. He was ordered by his father not to present himself for the examination on the ground that the mental strain would militate against his chances, and that if he failed the fact would inevitably come out at the trial and damage him in the eyes of the jury. The founder of THE LANCET was a masterful man and it was not the habit of his children to say him nay, but Wakley resolved to proceed with the examination unknown to his father and passed triumphantly on Dec. 6th, 1849, a date which, by the way, made him at the time of his death senior Fellow of the College bracketed with Mr. George Carrick Steet, who took the same diploma on the same day. The trial came on on Dec. 10th and was a veritable triumph for Wakley. The only surgeon called for the plaintiff gave evidence for the defendant, the unanimous opinion of the distinguished authorities appearing as witnesses for the defendant could not be questioned, and the private malevolence which, together with the hope of blackmail, had instigated the prosecution was fully revealed. The jury, who had previously manifested a desire to stop the case, found a verdict for Wakley without leaving the box.

Shortly after this Wakley, whose position as an operating surgeon was now well established, moved from his unambitious address in Bloomsbury to No. 7, Arlington-street, where he enjoyed for many years a good surgical practice, many of his clients belonging to the highest ranks of society. With regard to several such patients, when the lapse of time had removed all possible chances that he was committing any breaches of professional confidence, he used to tell humorous stories. One in particular dealt with a man famous in the history of England. An old gentleman who would never give any name used to come day after day, often several times in a week, to consult Wakley about a chronic ailment of his foot. He declared that he had consulted some of the first surgical opinions in the country about his trifling ailment and that they had been unable to do anything for him. He proposed that he should pay Wakley a definite sum every week and that Wakley should attempt a systematic cure. He was told that he could come when he liked if he paid the usual fee, which at that date was one guinea. He would not give his name. After a time the foot began to yield to treatment and a pleasant source of revenue for a young surgeon in a new and expensive house bade fair to cease. Still Wakley remained in ignorance of the identity of the old gentleman. But one day his servant came to him in much excitement and said that he had suddenly remembered why the mysterious patient's face had been familiar to him from the first. He had seen him at prize-fights and he was Lord ——,[2] mentioning a great peer who is reported to have twice refused to be Prime Minister of this country, and who certainly after the death of the Duke of Wellington had succeeded to the unofficial post of private general adviser to the Crown. Wakley always considered it a joke against both Lord —— and himself that he should not have known by sight so distinguished a man living a stone's throw from his door, and that the recognition should have come from his servant through the mutual taste of the butler and the peer for what was then called "the noble science." While in Arlington-street Wakley made a special study of diseases of the urethra and invented an ingenious form of dilator which in his hands gave very good results. He was also the first observer to see the use to which glycerine might be put in practical surgery owing to its deliquescent properties. An article on the point, published in THE LANCET attracted considerable attention and incidentally gained for him some reputation as an aural surgeon, as it was in relation to the treatment of affections of the external auditory meatus that his experiments were made. He also wrote the article upon Diseases of the Joints in one of the later of the many editions of Samuel Cooper's famous

[2] We prefer to imitate Mr. Wakley's discretion, even though it is easy to see to whom the reference must be.

"Surgical Dictionary," and published an interesting series of experiments in the anæsthetisation of various animals and birds.

In 1857 his father, who five years previously, owing to ill-health, had resigned his seat in Parliament, made an arrangement by which his eldest and youngest sons became part proprietors of THE LANCET and had a share in the management of the journal. In 1862 the father died and the editorial conduct of THE LANCET passed to the youngest brother, the late Dr. James Wakley, who, indeed, in all but name had been editor for several years, but Thomas Wakley as part proprietor of the paper was actively interested in its conduct. From this time his life as an active surgeon to some extent was doubled with the life of a journalist, although he did not actually retire from consulting practice until 1882. But he came daily to THE LANCET office and acquired such experience of practical journalism that he was able upon the death of his brother in 1886 to assume the editorship in association with his son. Dr. James Wakley had been educated and bred as a journalist, while Thomas Wakley turned to journalism comparatively late in life, but under his rule the journal has steadily progressed. His ideas were always shrewd and practical; for instance, the publication weekly of an index of advertisements was due to him, and the convenience of the innovation has since been recognised by other papers. We cannot be expected to criticise him in his capacity as our senior editor; that must be left to other pens, but we may be allowed to say that from the first he made good headway against the inevitable drawbacks of entrance upon the career of a journalist at so late a date in his life, and that he was unsparing of himself in his energetic desire to do good by the medium of his journal. Of unbounded activity, physical and mental, he was never ill and never absent from his duties. In all weathers and on all occasions he arrived in the early morning at his office. For many years he spent the winter months in Brighton but he never allowed this to interfere with his regular and punctual attendances at THE LANCET office. So late as 1903, when he was in his eighty-second year, he made the journey from Brighton to London and back daily, not omitting even Saturdays. During the last decade of his life the editorial management of the journal gradually passed from the hands of the father to the hands of the son, but to the end of his life Thomas Wakley showed no abatement of interest in the details of the paper. He continued to come daily to the office and could always be relied upon in cases of unusual difficulty or doubt for a sound and sensible consulting opinion. One subject he retained in his own hands entirely. During all the period in which he was associated with the editorship of THE LANCET great prominence was always given to the work of the Hospital Sunday Fund. The Fund was largely founded by Dr. James Wakley, and Thomas Wakley resolved that the interest manifested by his brother should not be allowed to die out. He personally supervised the publication every year of a special supplement issued in the interests of the Fund, and was an assiduous attendant at the meetings of the General Purposes Committee, of which he was a member, and of the meetings of the Council. His deep sympathy with the material welfare of the medical profession was shown not only by many acts of private generosity but by the institution of THE LANCET Relief Fund. The income of this Fund since its foundation in 1889 has been supplied by himself and his son as the proprietors of THE LANCET. The Fund was intended to meet unforeseen and urgent pecuniary exigencies among members of the medical profession, and the proved utility of this scheme of practical generosity was always a source of great gratification to its originator. He was also a warm supporter of Epsom College, his advocacy of this useful foundation taking in 1902 the practical form of a donation of £1000, given in the name of "The Proprietors of THE LANCET," while he was always ready to support the claims of the College, educational as well as eleemosynary, upon medical practitioners. He was interested in the ambulance department of the Order of St. John of Jerusalem, was Knight of Grace of that Order, and a member of the committee of the Jerusalem Ophthalmic Hospital.

Mr. Wakley's private life was a very quiet and retired one. He married when a young man the third daughter of the late Francis Radford Blake of Rickmansworth, so that the year of his golden wedding had gone by when he died. Outside his duties as surgeon and journalist Mr. Wakley's chief pleasures lay in sport. In his youthful days he had been a fine runner and athlete. He was a first-rate rider, and until quite late in life hunted whenever he got the opportunity. He was fond of salmon fishing, regularly visiting Ireland for many years for the purpose. He was also, like his brother James, an enthusiastic shot, and until the end of his days took the greatest delight in the sport.

With regard to his last illness—which within the memory of all who knew him was his first illness—there is little to be said. Some six or seven weeks ago he found himself troubled with attacks of breathlessness. He was assiduously cared for by Dr. Alfred Baldock in consultation with Sir Richard Douglas Powell, and in his temporary absence with Sir Lauder Brunton, but it was not possible to arrest the increasing cardiac weakness. An absolutely uncomplaining patient, in the end he peacefully passed away in the presence of his family. He was quite prepared for the event, having stated his belief when he first consented to seek medical advice that his days were numbered. He leaves a widow; a son, Thomas Wakley, junior, who has for the last 20 years been his father's colleague in the editorship of this journal; and a daughter.

A funeral service was held in St. Mary Abbots Church, Kensington, on Wednesday, April 10th. The vicar of the parish, Canon Pennefather, took the service, being assisted by the Rev. J. A. Lewis. Among those present were Mr. Henry Morris, President of the Royal College of Surgeons of England; Dr. S. Monckton Copeman, representing the Medical Department of the Local Government Board; Sir Shirley Murphy, medical officer of the County of London; Dr. D. Nicolson, C.B., Lord Chancellor's Visitor in Lunacy; Dr. John Tatham, superintendent of statistics to the General Register Office; Sir Edmund Hay Currie, representing the Metropolitan Hospital Sunday Fund; Dr. Dawson Williams, Editor of the *British Medical Journal;* Mr. Guy Elliston, secretary of the British Medical Association; Sir Henry Burdett, K.C.B.; Mr. Conrad W. Thies, secretary of the Royal Free Hospital; Mr. J. B. Lamb, secretary of Epsom College; Mr. W. Shroeder, deputy coroner for Central London; Dr. J. G. Glover, Mr. Sandford, Mr. D. R. Harrison, Dr. A. Baldock, Mr. C. McCall, and many past and present members of the editorial staff of THE LANCET, and members of the printing and publishing departments. After the service, in accordance with the wish of the deceased, the remains were cremated at Golder's Green.

The admirable portrait on the adjoining page is reproduced from a photograph taken when Mr. Wakley was aged 85 years. The presentation is life-like.

A great many letters of sympathy have been received by us, of which we select the following for publication, with the permission of the writers, who in each case were old-established and personal friends of Thomas Wakley:—

100, Harley-street, W., 7th April, 1907.

MY DEAR MR. WAKLEY,—I am deeply grieved to receive the news of your father's death. When I realise that he is no more my thoughts insensibly go back to the time when I first came to know him, five and thirty years ago. At once I was impressed by his robust physique, alertness, and vigour. His handsome face, his well-knit frame, his elastic

step, his rapid but pleasant utterance, his quick observation, all indicated a character at once strong, energetic, and shrewd. And none of these characteristics had appreciably abated when I last saw him a few months ago. Not only then, but always, was I struck by his honest and honourable pride in THE LANCET; its history and its traditions, its struggles and its triumphs, its power and its influence, and all that these meant to the public and to the medical profession. When some years later, on the death of your uncle, Dr. James Wakley, your father and yourself succeeded to the editorship of THE LANCET it was at once evident that the great principles which had governed the conduct and policy of the journal were being zealously, almost religiously, maintained. Through evil report and through good report THE LANCET had always striven, and under your father's guidance continued to strive, for the increase of medical knowledge, for the improvement of medical education, for the advancement of the medical profession not only in its corporate relations, but also in its relations to civil life, to the Services, and to the State. Above all, it never ceased to advocate and encourage every rational endeavour to promote the public health and wellbeing.

Many things come to my memory when I think of THE LANCET, of your late uncle, and your father. But there is one quality in your father's character which it is especially agreeable to reflect upon. His mind moved in charity. As a publicist he was fearless, never flinching before a public duty, never shirking a public responsibility, and yet in private life he was notably gentle, compassionate, and generous. His practical sympathy with the sorrows and misfortunes of those members of our profession who had failed in life's struggle, or who had by any means fallen into adverse and necessitous circumstances, manifested itself in the institution of THE LANCET Relief Fund. Not only did he supply the pecuniary means for affording relief but he took a personal interest in the circumstances and antecedents of every applicant for relief, whether coming under the conditions of the Relief Fund or not. His solicitude for all who were suffering and in sorrow was indeed edifying, and his simple pleasure in the contemplation of the help and encouragement and hope which his munificence was able to afford was a sincere testimony to the goodness of his heart and to the gentleness of his nature.

With sincere sympathy with you, your mother, and all the members of your family,

Believe me, yours faithfully,

JOHN TWEEDY.

Dr. James Grey Glover, our excellent friend, to whose counsels we owe so much and whose association with us in our editorial work has been so close and long, writes as follows:—

"Mr. Wakley's life was a very remarkable one in respect of its length and its brightness. It is not many weeks ago I chanced to ask him how long it was since he was laid up in bed with illness. He promptly answered that he had never been ill in his life. He had broken a few bones in his hunting days (which extended well into the sixties or even the seventies of his age), but such incidents had no influence on the current of his active life. Fine health had doubtless much to do with that energy and cheerfulness and good humour which were so marked a feature of his character and which made it so pleasant and refreshing to meet him. He was an unselfish man, thinking always of others—primarily, no doubt, of those at home, to whom he was so devoted. But his kindly interest extended to all associated with him in the work of THE LANCET—not only to the members of the staff but to those associated with him in the management and the publication of the journal; and he had that concern for all sections of the medical profession, especially for those in the arduous ways of general practice, which has always been the power of THE LANCET since the days of its strenuous founder. But his nature was a genial and generous one and his sympathies were not circumscribed by mere domestic and professional considerations. He was interested in all social and philanthropic movements and in particular he was a most active and generous helper of the Metropolitan Hospital Sunday Fund, thus following the lead of his late younger brother, Dr. James Wakley. Those who, like myself, had the pleasure of Mr. Wakley's friendship over many years will feel the loss of his cheerful personality. He was a link, too, with the past days of the profession in London, and we shall miss his anecdotes of the events and persons of his earlier days with which he was wont to interest and inform us."

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At the first professional examination of the Conjoint Examining Board just completed, the following gentlemen were approved in the subjects indicated below:—

Chemistry and Physics.—Charles Vernon Anderson, St. Thomas's Hospital; David Greig Arthur, St. Bartholomew's Hospital; Adrian Barry, London Hospital; Ellis Campbell Bowden, St. Lawrence College, Ramsgate; Robert Trail Brotchie, London Hospital; Maurice Burnett, St. George's Hospital; Philip Norman Button, Middlesex Hospital; Norman Stuart Carruthers, Guy's Hospital; Joseph Coplans, Simon Langton School; Hugh Gregan Crawford, Guy's Hospital; Joseph Henry Creasy Davis, Middlesex Hospital; William Townsend Dobson, University College, Cardiff; John Herbert Drinkall, Middlesex Hospital; William Agar Scholefield Duck, Battersea Polytechnic; Richard Shirley Fawssett, St. Bartholomew's Hospital; John Kenneth Garner, Liverpool University; Frank Garratt, St. George's Hospital; John Cecil Hallinan, Charing Cross Hospital; Leslie Price Harris, Guy's Hospital; Gordon Alexander Hodgson, Leeds University; Thomas Henry Jackson, Charing Cross Hospital; Ah Chit Jap, Guy's Hospital; Frederic George Lloyd, Guy's Hospital; Donald Henry McDonald, Birkbeck College; Adolph Richard Niell MacGillycuddy, University College; Edward Hillis Marshall, King's College; Burford Noel Norman, University College; George Vandeleur Ormsby, St. Bartholomew's Hospital; Cresswell Lee Pattison, St. Mary's Hospital; Dyfrig Huws Pennant, University College, Cardiff; George Brentnall Pritchard, Guy's Hospital; Christopher Hugh Leete Rixon, St. Thomas's Hospital; Mohamed Salem, Guy's Hospital; Harold Freize Stephens, Guy's Hospital; John Helby Wilkinson, London Hospital; and Owen Elias Williams, Guy's Hospital.

Biology.—Ahmed Abdel-Al, Guy's Hospital; George Aldridge, St. Bartholomew's Hospital; Charles Nelson Atlee, St. Mary's Hospital; David Greig Arthur, St. Bartholomew's Hospital; Malcolm Barker, Charing Cross Hospital; Vincent Ambrose Berne, London Hospital; William Houston Boyd, Queen's College, Belfast; Herbert Hayward Budd, St. Mary's Hospital; Maurice Burnett, St. George's and King's College Hospitals; Terence Campbell Butler, Westminster Hospital and King's College; Allan Stanley Coalbank, St. Bartholomew's Hospital; Claude Gray Colyer, Birkbeck College; Joseph Coplans, Birkbeck College and Simon Langton School; Frank Cuninghame Cowtan, St. Thomas's Hospital; David Henry Davies, University College, Cardiff; Joseph Henry Creasy Davis, Middlesex Hospital; Bartholomew Gidley Derry, University College, Bristol; Maberly Squire Esler, St. Thomas's Hospital; Alfred George Timbrell Fisher, University College, Bristol; William Trevor Flooks, University College, Cardiff; Meredydd Foulkes, University College, Bangor; Edwin Allan Thomas Green, Manchester University; Kenneth Banks Greenwood, London Hospital; Norman Grellier, Birkbeck College; Sydney Hall, B.Sc., Manchester University; John Cecil Hallinan, Charing Cross Hospital; Mohammad Zaky Hanafy, Guy's Hospital; Edward Howard Heaton, London Hospital; John Eric Hepper, St. Bartholomew's Hospital; Herbert Cragg Highton, L.D.S., Birkbeck College; George Graham Bedingfield Holrode, London Hospital; Ah Chit Jap, Guy's Hospital; John Cecil Jefferson, Manchester University; Cornelius Kennedy, Liverpool University; Arthur Gerald Stubbs Keyworth, King's College; Geoffrey William King, Guy's Hospital; Victor Kucewizky, London Hospital; Sohan Lal, London Hospital; John Vollans Lambert, Middlesex Hospital; James Lafayette Lauder, Guy's Hospital; Frederic George Lloyd, Guy's Hospital; Arthur Lowndes, Manchester University; Hamed Mahmud, St. Thomas's Hospital; Edward MacMahon Mahon, Guy's Hospital; George Noel Martin, London Hospital; Francis Henry Mosse, Oxford University; Burford Noel Norman, University College; George Vandeleur Ormsby, St. Bartholomew's Hospital; Hubert Frederick Overend, Manchester University; Frederic John Palmer, St. Mary's Hospital; Dyfrig Huws Pennant, University College, Cardiff; George Hugh Piercy, University College, Bristol; John Pinder, Leeds University; Courtenay Henry Gerard Pochin, Guy's Hospital; Richard Frith Quinton, London Hospital; Cecil Goodwin Reinhardt, Leeds University; Edmund Unlacke Russell, King's College; Mohamed Salem, Guy's Hospital; David Scott, London Hospital; John Richard Cook Stephens, London Hospital; Cecil Hearle Symons, Charing Cross Hospital; Harry Alfred Turner, Birmingham University; Watkin Watkins, University College, Cardiff; John Douglas Webb, Liverpool University; Sydney Arthur Wilkinson, St. Thomas's Hospital; and Miles Antman Knight Wood, St. Bartholomew's Hospital.

At the quarterly examination in Anatomy and Physiology 92 candidates presented themselves, of whom 55 were approved and 37 were rejected. The following is the list of successful candidates:—

Noël Sanville Adler, Leipsic University; Edward William Atkinson, B.A. Cantab., Cambridge University and London Hospital; Gerald Waddington Beresford, London Hospital; Noel William Berry, St. George's and King's College Hospitals; Duncan Campbell Bluett, Cambridge University and St. Thomas's Hospital; David Forbes Borrie, New Zealand University; John Capell, St. Bartholomew's Hospital; William Henry Catto, Guy's Hospital; Richard Christopher Clarke, University College, Bristol; Thomas Cock, Charing Cross Hospital; Thomas Ronald Davey, St. Mary's Hospital; Guy de Hoghton Dawson, Middlesex Hospital; Pedro Joaquim

de Miranda, L.M. & S., Bombay and King's College; Anthony Dias, King's College; George Douglas Gordon Fergusson, St. Mary's Hospital; Bernard Goldsmith, Middlesex Hospital; Alfred Barnes Gunasekara, Ceylon Medical College; Clifford Hall, Manchester University; Newcombe Herbert Harrison, Charing Cross Hospital; Arthur Hilary Clifton Hill, Middlesex Hospital; John Brook Henderson Holroyd, Sheffield University; Joseph Stanley Hopwood, St. Thomas's Hospital; Ernest Howden, Leeds University; Gwilym James, B.A. Cantab., King's College; Geoffry Jefferson, Manchester University; Bertram Abbott Keats, St. Bartholomew's Hospital; Timothy Joseph Killard-Leavey, Guy's Hospital; Musugeesem Muthu Kumarasamy, Madras; Francis William Lastic, Sheffield University; Julius Luciani, M.D. Venezuela, University of Caracas; Kenneth Dalrymple Marriner, St. Thomas's Hospital; Robert Telford Martin, London Hospital; Maurice Charles Mason, St. Mary's Hospital; Bernard Constable Maybury, St. Thomas's Hospital; John Frederick Henry Morgan, University College, Bristol; Claude Woodham Morris, University College Hospital; Francis Leslie Nash-Wortham, St. Bartholomew's Hospital; Charles Philip Augustine de Lacerda Pereira, Birmingham University; Wilfrid Langrish Pink, St. Thomas's Hospital; George Henry Pooley, F.R.C.S. Edin., Cambridge University; Frederick Charles Pridham, St. Thomas's Hospital; Edward Albert Seymour, St. Thomas's Hospital; Frank Lewis Smith, St. Thomas's Hospital; Vere Edward Somerset, King's College; Horace Steinbach, Guy's Hospital; Thomas Edmund Alexander Stowell, St. Thomas's Hospital; Alan Everley Taylor, B.A. Oxon., Oxford University; Mon Chow Thavara, Guy's Hospital; Harold William Tilling, Charing Cross Hospital; James Massimo Todesco, London Hospital; Henry Ashburn Treadgold, B.A. Cantab., Cambridge University; Thomas Anger Fereman Tyrrell, St. Mary's Hospital; Louis Michael Waldron, London Hospital; John Pryce Williams, Manchester University and St. Mary's Hospital; and Raphael Yood, Manchester University.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the preliminary science examination for the Licence in Dental Surgery the following gentlemen were approved in the subject of chemistry and physics:—

Ernest Beddoes, Holt School of Science, Birkenhead; Harold Rawbert Bentley, Technical School, Halifax and Leeds University; Henry Montague Browne, Science and Art Institute, Walsall; Victor Charles Burt, Charing Cross Hospital; Robert Morris Colwill, City of London College; Henry Charles Corke, Battersea Polytechnic; Niel Edgar, Birkbeck College; James Mutrie Frank, Technical School, Liverpool; John Trude Fripp, Polytechnic Institute; Lionel David Frühauf, Birkbeck College; John Wilfrid Hall, Guy's Hospital; Arthur Rusby Hawksley, Technical School, Liverpool; Percy Stanley Humm, Guy's Hospital; William Edward Jones, Technical Schools, Chester; William Joseph Kennealy, Guy's Hospital; Rupert Mallinson, Charing Cross Hospital; Christopher Claud Marston, Technical School, Leicester, and Birmingham University; Bertie Mendleson, Municipal Technical School, Swansea; Henry Leslie Messenger, Birkbeck College; Frederick Henry Newcombe, Holt School of Science, Birkenhead; James Ormrod, Technical School, Liverpool; Bertram Charles Salter, University College, Aberystwyth; Walter Herman Scales, Technical School, Liverpool; Norman Steffan Heegaard Warner, Wandsworth Technical Institute; Alexander MacDonald Watson, Guy's Hospital; Lauder Lylestone Wight, Birkbeck College; Frederick Charles Willows, University College, Bristol; and Thomas Edwin Wills, Polytechnic Institute.

SOCIETY OF APOTHECARIES OF LONDON.—At the primary examinations held recently the following candidates passed in the subjects indicated:—

PART I.

Chemistry.—I. M. Bernard and M. C. Dence, Royal Free Hospital.

Materia Medica and Pharmacy.—C. A. Mortlock-Brown, Royal Free Hospital; and G. F. Wilson, London Hospital.

PART II.

Anatomy.—E. C. R. Fisher and A. Jonathan, Royal Free Hospital; B. A. Keats, St. Bartholomew's Hospital; H. W. Phillips, Manchester; J. E. S. Sheppard-Jones, Cambridge and St. Thomas's Hospital; A. Singha and R. H. Smith, Royal Free Hospital; S. W. Turtle, London Hospital; and H. I. Welsh, St. Mary's Hospital.

Physiology.—J. A. Bullbrook, Guy's Hospital; B. A. Keats, St. Bartholomew's Hospital; J. E. S. Sheppard-Jones, Cambridge and St. Thomas's Hospital; H. H. Smith, Royal Free Hospital; and W. E. N. Smith, Durham.

LONDON SCHOOL OF TROPICAL MEDICINE.—The following students of the above school successfully passed the examination in Tropical Medicine held at the end of the twenty-third session, January to April, 1907:—

*Major F. R. Ozzard, I.M.S.; *Captain T. G. N. Stokes, I.M.S.; *Mr. J. M. O'Brien (Colonial Service); *Lieutenant O. Berkeley-Hill, I.M.S., M.B. Oxon.; *Captain J. W. F. Ralt, I.M.S.; Dr. A. W. Atkinson (Colonial Service); Dr. M. Gamble; Mr. F. W. Woolrabe; Dr. E. G. H. Weir (Colonial Service); Dr. A. Orgnieri (Torino); Dr. C. W. McLeay (Colonial Service); Dr. E. W. Wood-Mason (Colonial Service); Dr. A. M. Cowan; Mr. R. W. Orpen (Colonial Service); Dr. F. McF. W. Pollard (Colonial Service); Dr. A. M. Clark; Mr. W. N. Alexander (Colonial Service); and Dr. H. O'Hara May (Colonial Service).

* With distinction.

NORTH DEVON INFIRMARY, BARNSTAPLE.—The Countess Fortescue on April 5th in the presence of a large gathering formally reopened the North Devon Infirmary. The institution has been enlarged and brought thoroughly up to modern requirements. New wards have been added, including a new isolation ward, the expense of the latter having been defrayed by a legacy received from the late Mr. Staples. The cost of the undertaking has been about £4600, the whole of which sum has been raised.

UNSOUND MEAT.—At the Weston-super-Mare petty sessional court held on April 5th a local butcher was sentenced to two months' imprisonment for having meat unfit for human consumption exposed for sale in his shop.

MEDICAL MAGISTRATES.—Mr. Philip Edward Hill, M.R.C.S. Eng., L.S.A., of Crickhowell, Mr. Frederick James Jayne, M.B., C.M. Glasg. of Talgarth, and Mr. Hubert Williams, L.S.A., of Talgarth, have been placed on the commission of the peace for the county of Brecknock.

THE COAL SMOKE ABATEMENT SOCIETY.—The annual general meeting of this society will be held on Monday, April 22nd, at 3 P.M., at the Haymarket Theatre, Haymarket, London, W., under the presidency of Sir William Richmond, K.C.B., R.A. It is expected that, among others, the following will take part in the proceedings: The Bishop of London, Sir Frederick Treves, Mr. W. H. Atkin Berry, F.R.I.B.A., Dr. H. A. Des Vœux (honorary treasurer of the society), and Dr. S. Rideal, F.I.C.

INVALID CHILDREN'S AID ASSOCIATION.—The annual meeting of the Invalid Children's Aid Association will be held, by kind permission of the Right Hon. the Speaker and Mrs. Lowther, at the Speaker's house in the Palace of Westminster on Wednesday afternoon, May 1st, at 3 o'clock. Lord Strathcona will preside and Sir William Bennett, K.C.V.O., the Rev. Father Bernard Vaughan, Mr. Creighton, and Mr. I. Zangwill will be among the speakers. Admission by ticket only, application for which may be made to the Secretary, 69, Denison House, Vauxhall Bridge-road, Westminster, London, S.W.

ROYAL INSTITUTION.—A general monthly meeting of the members of the Royal Institution was held on April 8th, Sir James Crichton-Browne, treasurer and Vice-President, being in the chair. Dr. J. Percy Smith and Mr. A. H. Tubby, F.R.C.S., were among the elected members. The special thanks of the members were returned to Sir Andrew Noble for his donation of £200 to the Fund for the Promotion of Experimental Research at Low Temperatures; and to Lady Kelvin for her gift of a statuette of Lord Kelvin. The chairman announced the decease of Professor M. Berthelot, Hon. Mem. R.I., and of Dr. Allan Macfadyen, Fullerian professor of physiology in the Royal Institution 1901–03, and resolutions of condolence with the relatives were passed.

LONGEVITY.—The *Times* of April 8th states that Mrs. Hamilton of Townend, Kirkcudbright, celebrated the 103rd anniversary of her birthday last week. She was born on April 4th, 1804, the daughter of Mr. Robert Gordon, a banker and writer, of Kirkcudbright. Her husband, the Rev. George Hamilton, died in 1836, after being for 16 years minister of Kirkcudbright. Of the family of three sons and two daughters, one son and the daughters survive. Mrs. Hamilton still enjoys as good health as is compatible with her great age and the Kirkcudbright town council presented her with an illuminated address on the anniversary of her 100th birthday. Last month the approaching anniversary was brought to the notice of Lord Knollys, who was commanded by the King to telegraph to Mrs. Hamilton a message of congratulation.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Easter Holidays.

THE House of Commons reassembled on Monday after the Easter Holidays. The House of Lords do not meet until next week.

Phosphorus Necrosis in Match Factories.

The report made to the Home Secretary by Mr. H. H. S. CUNYNGHAME, Assistant Under-Secretary of the Home Office, and Dr. B. A. WHITELEGGE, Chief Inspector of Factories, on the match factory of Messrs. MORELAND and SONS, Gloucester, with special reference to a recent fatal case of phosphorus necrosis, has been presented to Parliament. They reported that in the present instance no rules appear to have been broken. The report concludes with some general remarks and recommendations on the employment

of white phosphorus in match making. It states that many manufacturers, and Messrs. MORELAND among them, have spent considerable sums of money in the endeavour to make a "strike-anywhere" match without white phosphorus, but in spite of various inventions, some of which are strongly advocated by those who have patented them, it does not seem that they are yet in a position entirely to replace the white phosphorus match. Custom, no doubt, has some influence and it is also said that matches made with white phosphorus have the advantage of greater resistance to damp and greater freedom from explosive ignition, not only in manufacture but also in use by the consumer. The report proceeds to say that it would, of course, be easy, and would relieve the Factory Department of much trouble, to put an end to the possibility of necrosis by totally prohibiting the use of white phosphorus. But this step would seem logically to involve the prohibition of the use of many other substances which are largely used in industry and which have caused a much larger number of industrial accidents. Mr. CUNYNGHAME and Dr. WHITELEGGE for the present do not think that the character of the cases of necrosis which have occurred render it necessary to prohibit the use of white phosphorus.

There is another solution of the difficulty to which they look forward with hope. They are of opinion that an effective remedy can be found in automatic machinery with exhaust ventilation so arranged (1) that the whole of the fumes generated are completely carried off without coming in contact with the workers, and (2) that it is impossible for the paste to come in contact with the workers' hands or persons. Pending the introduction of completely automatic machinery it is obviously important to insist upon the greatest care being taken with regard to the very few persons in the factory who are exposed to phosphorus. Mr. CUNYNGHAME and Dr. WHITELEGGE recommend that the special rules in force in lucifer match factories should be strengthened and that the various firms engaged in the industry should be pressed to arrange for automatic machinery which shall completely isolate the operatives both from fumes and from the paste. They further suggest that an inquest should always be held in case of a fatality attributable to phosphorus and that the attention of coroners should be especially directed to this point.

Public Health in Egypt.

In a Blue-book containing Lord CROMER's report on the administration of Egypt, No. 1 section relates to public health. 31,000 in-patients and 128,000 out patients were treated in Government hospitals in Egypt last year. 1910 cases of small-pox were notified, as against 4189 in 1905; the number of plague cases has increased, however. Infant mortality continues very high. The lunatic asylum accommodation has recently been enlarged and a new asylum is to be opened at Khanka; it is hoped that during the current year Lord CROMER's previous suggestion of the necessity of a lunacy law will bear fruit. The campaign against ophthalmia continues vigorously; the necessity of establishing permanent ophthalmic hospitals to replace the tents for treatment is fully recognised and the first will be opened at Tantah during this year. The Government Anti-Rabic Institute has been working since May, 1906, with excellent results, and Professor R. Ross's campaign against mosquitoes in Port Said has greatly diminished malarial and other fevers. Similar action is being taken at Suez and Cairo.

Medical Education.

The Board of Education has issued as a Blue-book the reports from universities and university colleges participating in the Parliamentary grant. These include the Universities of Birmingham, Leeds, and Liverpool; the Victoria University, Manchester; King's College, London; University College, London; and Dundee University College. Particulars are given in each case where medical degrees and diplomas are granted of the number of students who have studied for them and of the scale of class fees.

HOUSE OF COMMONS.

MONDAY, APRIL 8TH.

Magistrates and Vaccination.

Mr. CLARKE asked the Secretary of State for the Home Department whether he was aware that the Lambeth magistrate had refused a certificate of exemption from vaccination.—Mr. GLADSTONE: The law requires an applicant to satisfy the magistrate that he conscientiously believes that vaccination will be injurious to the child and therefore I cannot take any action in the matter.

Osborne Convalescent Hospital.

In the course of the debate in Committee of Supply on the vote for £9100 in respect of Osborne Mr. HARCOURT, the First Commissioner of Works, said, in replying to several Members, that the draining in connexion with Osborne House had been found to be very bad when it was taken over as a convalescent hospital for officers of the army and navy. However, it had been thoroughly overhauled and now the building was possessed of the highest requirements for a convalescent hospital. His department had taken pains that it should have a good water-supply. Complaints had been made that Osborne was only available for officers of the army and navy and was not open to the non-commissioned ranks. Those who made that complaint had forgotten the terms of the gift of Queen Victoria. That was a splendid gift, and it had been recognised in an Act of Parliament. By its terms a part of the grounds and of the house was to be kept as at present as a memorial to her late Majesty, and the rest of the House was to be devoted to officers of the army and navy.

Mr. MORTON said that he saw in the estimates an item for the Osborne advisory committee. What was their work?

Mr. HARCOURT answered that this advisory committee was composed of a number of eminent surgeons and medical men who gave their services gratuitously to his department in making periodical inspections and in satisfying him that the hospital was being properly conducted. He thought that the least they could do was to pay the travelling expenses of these gentlemen. For his own part he could not speak too highly of the distinguished men who had given them the benefit of their services in this manner.

The subject then dropped and the vote was agreed to.

TUESDAY, APRIL 9TH.

A Seizure of Tinned Goods.

Mr. ERNEST LAMB asked the President of the Local Government Board whether he was aware that at a recent auction in the City of London (March 27th, 1907) a large quantity of tinned goods were offered for sale, some of which were seized and destroyed as unfit for food by the port sanitary authority in whose district they were lying, although the owner of the goods stated that some of these goods were returned military stores from South Africa; and whether he was aware that a quantity of these goods were still in this country and on the way, and that arrangements were apparently being made to put them on the market from time to time at the rate of one-halfpenny per pound after expense of freight, storage, &c., had been paid; and whether, in these circumstances, he would take such steps as might be necessary in the interests of public health to prevent such sales.—Mr. JOHN BURNS (by written answer) replied: The facts appear to be generally as stated. Further legislation of the kind contemplated by the Public Health (Regulations as to Food) Bill now before Parliament is necessary for the proper dealing with a matter of this kind, but in the particular instance mentioned attention was given by the local authorities concerned to the condition of the goods sold at the auction. A special notice was exhibited at the auction to the effect that they were sold subject to being passed by the medical officer of health of the district in which they were lying; and steps were taken by the medical officers of health of the City and Port of London, of Stepney, and of Finsbury to obtain the surrender of such of the articles of food as were considered to be unfit for human consumption.

WEDNESDAY, APRIL 10TH.

Floods and Public Health in Ireland.

Mr. MEEHAN asked the Chief Secretary to the Lord Lieutenant of Ireland whether his attention had been called to the medical evidence given before the Barrow Drainage Commission in 1885 by Dr. William Neale, medical officer, Mountmellick dispensary district, to the effect that houses were annually rendered unfit for habitation, and whole families had to leave in flood times and were huddled together in most insanitary houses, public health seriously injured, malaria and typhoid fever and diphtheria prevalent in consequence of the floods and that no adequate sewerage for the town was possible, and the water-supply was contaminated; and whether, having regard to the fact that the evils arising from the flooding had increased since this evidence was given 22 years ago, he would take steps to provide an effectual remedy. The honourable Member also addressed a question to the Prime Minister on the same subject in which he drew attention to the medical evidence given before the Barrow Drainage Commission by Sir Francis P. McCabe to the effect that the flooding of this area developed various diseases, including pulmonary phthisis, bronchial and catarrhal affections, and acute and chronic rheumatism.—Mr. BIRRELL replied to both questions: The Arterial Drainage Commission has only recently reported. The appendix containing the evidence has not yet been presented to Parliament. It is, however, in the printer's hands and will shortly be ready. When the evidence has been received it will be necessary to consider the recommendations of the Commission on Arterial Drainage as a whole in order to decide what legislation may be necessary and this will take time. It is obvious that in the meantime it will not be possible or desirable to consider the question of undertaking a drainage scheme for the Barrow or any other particular river. This answer applies also to the question which the honourable gentleman has addressed to the Prime Minister.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week such information for gratuitous publication.*

ANCRUM, GEORGE WAYLAND, M.B., C.M. Edin., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Honorary Surgeon to the Gloucester General Infirmary and Eye Institution.

ANGELIS, A. A., M.D. Athens, L.S.A. Lond., has been appointed Clinical Assistant to the Evelina Hospital for Children, Southwark.

BLACK, EDWARD HAMILTON, M.B., Ch.B. Edin., has been appointed Assistant House and Visiting Surgeon to the Stockport Infirmary.

BUTCHART, JOHN E., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Resident Medical Officer of Austin Hospital for Incurables at Heidelberg, Victoria, Australia.

DAVIES, LESLIE, M.B. Melb., has been appointed Acting Officer of Health, Goulburn, New South Wales, Australia, during absence on leave of Mr. Robert George Reid.

DE ZILWA, LUCIAN ARNOLD EMMANUEL, M.D., B.Sc. Lond., has been appointed Third Physician to the General Hospital, Colombo, and Lecturer in Physiology at the Ceylon Medical College.

ERCOLE, Q., M.D. Bologna, has been appointed Medical Officer at the Grenfell Hospital, New South Wales, Australia.

GALLETLY, J., M.B., M.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Bourne District of the county of Lincoln.

QUIRKE, J., L.R.C.P. & S. Irel., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Inistioge District of the county of Kilkenny.

RIDDELL, W. H., M.B., Ch.B. Edin., has been appointed House Surgeon at the Staffordshire General Infirmary, Stafford.

ROSE, FRANK A., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Surgeon to the Throat Department at St. Bartholomew's Hospital.

STREETEN, FRIEND EDWARD, M.R.C.S., L.R.C.P., L.M. Edin., D.P.H. Irel., has been reappointed Medical Officer of Health of Swindon.

WADDY, HENRY EDWARD, L.R.C.P., M.R.C.S., D.P.H. Camb., has been appointed Honorary Consulting Surgeon to the Gloucester General Infirmary and Eye Institution.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ASHTON-UNDER-LYNE DISTRICT INFIRMARY.—Junior House Surgeon. Salary at rate of £75 per annum, with board, attendance, washing, &c.

BIRKENHEAD UNION INFIRMARY AND SANATORIUM.—Resident Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

BIRMINGHAM, QUEEN'S HOSPITAL.—Second Physician for Out-patients and Pathologist. Salary £100 per annum.

BIRMINGHAM, UNIVERSITY OF.—Junior Assistant, Pathological Department. Salary £50 per annum.

BODMIN, CORNWALL COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £140 a year, rising to £160, with rooms, rations, laundry, and attendance.

BRADFORD ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board and residence.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—Third House Surgeon. Salary £50 per annum, with board, residence, and washing.

BRISTOL, COSSHAM MEMORIAL HOSPITAL, Kingswood.—House Surgeon and Resident Medical Officer. Salary £100 per annum, with board, apartments, and laundry.

BRISTOL GENERAL HOSPITAL.—House Surgeon, House Physician, Casualty House Surgeon, and Assistant House Physician. Salary £60, with board, residence, &c., in each case.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

BURY INFIRMARY.—Junior House Surgeon. Salary £80, increasing to £90, with board, residence, and attendance.

BUXTON, DERBYSHIRE, DEVONSHIRE HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with apartments, board, and laundry.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—House Surgeon. Salary at rate of £50 per annum, with board and residence.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DISPENSARY.—Junior House Surgeon. Salary £60 a year, with board, apartments, and laundress.

CUPAR-FIFE, FIFE DISTRICT ASYLUM.—Junior Assistant Medical Officer. Salary £120 per annum, with rooms, board, and attendance.

DERBY, COUNTY BOROUGH ISOLATION HOSPITAL.—Assistant to the Medical Officer of Health. Salary £100, per annum, with board and lodging.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, S.E.—Assistant Surgeon.

GLOUCESTER, GENERAL INFIRMARY AND THE GLOUCESTERSHIRE EYE INSTITUTION.—Assistant House Surgeon. Salary at rate of £30 per annum, with board, residence, and washing. Also Assistant Surgeon on the Acting Medical Staff.

HARTSHILL, STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL.—House Physician. Salary £100 per annum, with apartments, board, and washing.

HUDDERSFIELD INFIRMARY.—Senior Assistant, also Junior Assistant House Surgeon. Salaries £80 and £60 respectively per annum, with board, rooms, and washing.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Assistant House Surgeon. Salary £75 per annum, with residence, board, and washing.

LAMBETH INFIRMARY.—Third Resident Assistant Medical Officer. Salary £125 per annum, rising to £150, with the usual residential allowances.

LEEDS HOSPITAL FOR WOMEN AND CHILDREN.—House Surgeon. Salary at rate of £50 per annum, with board.

LEEDS PUBLIC DISPENSARY.—Honorary Assistant Dental Surgeon.

LINCOLN COUNTY HOSPITAL.—Junior House Surgeon, unmarried, for six months. Salary £25, with board, residence, and washing.

LIVERPOOL STANLEY HOSPITAL.—House Surgeon.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—Third Anæsthetist.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer for the Crossley Sanatorium, Delamere Forest. Salary £100 per annum, with board, apartments, and laundry.

MARGATE, ROYAL SEA-BATHING HOSPITAL.—Resident Surgeon, a Junior and as Senior for six months each. Salary at rate of £80 and £120 per annum respectively, with board and residence.

MIDDLESBROUGH, NORTH RIDING INFIRMARY.—Assistant House Surgeon, unmarried. Salary £75 per year, with residence, board, and washing.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood, Middlesex.—Assistant Resident Medical Officer at Northwood. Salary £50 per annum, with board, lodging, &c.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.—Assistant Ophthalmic Surgeon.

NEWCASTLE-UPON-TYNE, ROYAL VICTORIA INFIRMARY.—Director for the Bacteriological Laboratory. Salary £100 per annum.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Junior Resident Medical Officer. Salary £70 per annum, with board, residence, and laundry.

POPLAR HOSPITAL FOR ACCIDENTS.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board and residence.

PORT ELIZABETH, PROVINCIAL HOSPITAL.—Assistant House Surgeon. Salary £225, rising to £300, with board and lodging.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Examiners in Anatomy, Physiology, Midwifery, Public Health, and Elementary Biology.

ROYAL DENTAL HOSPITAL, Leicester-square, London, W.C.—Lecturer on Operative Dental Surgery.

ROYAL EAR HOSPITAL, Dean-street, Soho, W.—House Surgeon for six months. Salary at rate of £40 per annum.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Resident House Physician, Resident House Surgeon, House Physician, and Casualty House Surgeon.

ST. PETER'S HOSPITAL FOR STONE, &c., Henrietta-street, Covent Garden, W.C.—Junior House Surgeon for six months. Salary at rate of £50 a year, with board, lodging, and washing.

SOCIETY OF APOTHECARIES OF LONDON.—Examiners in Medicine, Surgery, Midwifery, Anatomy, and Materia Medica.

SUNDERLAND, MONKWEARMOUTH AND SOUTHWICK HOSPITAL.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

SWANSEA UNION WORKHOUSE.—Assistant Medical Officer. Salary £200 per annum inclusive.

TEIGNMOUTH HOSPITAL, South Devon.—House Surgeon. Salary £70 a year, with board, lodging, and washing.

THROAT HOSPITAL, Golden-square, W.—House Surgeon. Salary £50 per annum, with board, residence, and laundry.

TORQUAY, TORBAY HOSPITAL.—House Surgeon. Salary £100 per annum, with residence, board, and washing.

TOTTENHAM HOSPITAL, London, N.—House Surgeon, House Physician, Junior House Surgeon, and Junior House Physician, all for six months. Salary of two former at rate of £75 per annum, and of two latter at rate of £40 per annum, with residence, board, and laundry.

TOWER HAMLETS DISPENSARY, White Horse-street, Stepney, E.—Male Resident Medical Officer. Salary £150 per annum, with rooms, coals, gas, and attendance.

WAKEFIELD, WEST RIDING ASYLUM.—Pathologist and Assistant Medical Officer. Salary £140, with board, apartments, washing, and attendance.

WALSALL AND DISTRICT HOSPITAL.—Junior House Surgeon. Salary £50 per annum, with board, residence, and washing.

WANDSWORTH UNION INFIRMARY, St. John's Hill, near Clapham Junction.—Junior Assistant Medical Officer, unmarried. Salary at rate of £100 a year, with board, lodging, and washing.

WARRINGTON, LANCASHIRE COUNTY ASYLUM, Winwick.—Locum Tenens Medical Officer, unmarried. Salary 4 guineas per week, with apartments, board, attendance, and washing. Also Assistant Medical Officer, unmarried. Salary £150, per annum, with apartments, board, attendance, and washing.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon, unmarried. Salary £50 per annum, with board, residence, and washing.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Assistant Ophthalmic Surgeon.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at Chudleigh, in the county of Devon.

Births, Marriages, and Deaths.

BIRTHS.

GREENE.—On April 4th, at Richmond House, Turvey, Beds., the wife of George Watters Greene, M.A., M.D., of a daughter.

PANK.—At Hamilton-place, Market Rasen, Lincs., the wife of Harold W. Pank, M.R.C.S., L.R.C.P., of a daughter.

MARRIAGES.

LYNCH—CROSBY.—On April 8th, at the Church of St. Nicolas, Tanfield, Yorkshire, by the Rev. G. P. H. Feist, M.A., George Wm. Augustus Lynch, J.P., B.A., M.B. Cantab., Senior Medical Officer, Colonial Medical Service, Fiji, to Katharine Stuart Frances Crosby, Sleningford Park, Ripon. Colonial papers please copy.

MAY—MITCHELL.—On April 6th, at St. Peter's and St. Paul's Church, Chingford, Essex, George Ernest May, M.R.C.S., L.R.C.P., to Rachel Marguerite, second daughter of the late William Augustus and of Mrs. Mitchell.

YOUNG—BIRON.—On April 6th, at Lympne parish church, Graham Pallister Young, M.B., B.S., to Helen, third daughter of the Rev. Henry Brydges Biron.

DEATHS.

HARRISON.—On April 3rd, at Cornwallis-crescent, Clifton, H. T. D. Harrison, F.R.C.S., in his 88th year.

LEWIS.—On April 8th, at Kingscliffe, Northamptonshire, of pneumonia, Thomas White Lewis, M.D. Univ. Dub., second son of the late J. M. Aylward Lewis, J.P., of Ballinagar, co. Galway, and Mrs. Lewis, 42, Morehampton-road, Dublin, aged 52 years.

MILES.—On April 4th, at "Motcombe," Ramsgate, Thomas Miles, M.R.C.S., in his 84th year.

WAKLEY.—On April 5th, at 5, Queen's-gate, S.W., Thomas Henry Wakley, F.R.C.S. Eng., eldest son of the late Thomas Wakley, M.P., aged 86 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

A GREAT ESTATE, ITS AGENT, AND THE MEDICAL PROFESSION.

OUR readers may remember that we refused recently to publish an advertisement sent to us by Mr. Henry Whitcomb in behalf of the Petworth Park Friendly Society. In the first instance we refused the advertisement because we were not supplied with the rules of the society, later a letter received from Mr. Herbert E. Watson, agent to Lord Leconfield, the owner of Petworth, confirmed us in our decision (see THE LANCET, Jan. 26th, 1907). Mr. Watson was annoyed with us for publishing his letter, which was not marked "private," but he grew positively angry with us later for not publishing some figures which reached us in another letter, this time marked "private and confidential." Legal proceedings were spoken of unless we complied with Mr. Watson's behests, and altogether it was made clear to us that we had a very dour opponent to deal with. Yet with perhaps unpardoned rashness we kept on doing nothing, and the advertisement has not been inserted.

Mr. Watson has now issued a pamphlet with this title, "A Correspondence in Reference to an Advertisement for a Medical Officer between the Petworth Park Friendly Society and 'The Lancet.'" He calls attention on the frontispiece that only three of the letters have been published in THE LANCET, but adds in the preface that he has "decided to print the whole of the correspondence." Upon this pamphlet we have one or two remarks to make. Firstly, we are quite pleased to re-read our letters to Mr. Whitcomb and Mr. Watson. They well explain our position. But they were not written for publication, and their issue without our sanction is a droll proceeding on Mr. Watson's part considering his views about the sanctity of his own letters to us. Secondly, it is incorrect to describe the correspondence in the preface as complete when it is nothing of the sort. Modesty no doubt may have led Mr. Watson to refrain from giving wide circulation to his first letter of Jan. 29th or to his letter of Feb. 1st, 1907, in which he informed us that "the general remark of the leading people of this place" was "I never heard of such a thing publishing a private letter and commenting on it in such a vulgar way." The omission of these communications, however, renders the correspondence the reverse of complete. Thirdly, there is a footnote on page 11 of the pamphlet which is disingenuous. We stated in THE LANCET dated Jan. 26th that we had "never seen the rules of the Petworth Park Friendly Society." The footnote challenges our statement, saying, "*N.B.—The rules we forwarded on January 24th, see my letter.* THE LANCET *was published on January 26th.—H. E. W.*"; and the implication is that we had received the rules but preferred to deny the fact. Mr. Watson must know that a paper has to be printed before it is published. THE LANCET dated Jan. 26th went to press on the afternoon of Jan. 24th, three and a half hours before Mr. Watson posted to us in Petworth the rules which he said had been omitted owing to an oversight of his clerk (see letter on page 9 of pamphlet). Fourthly, the valuer's report, which appears on page 10, is unsigned and undated in the pamphlet, but in the original it is both. Despite these blemishes the pamphlet is a useful little production and we wish it wide publicity. Possibly Mr. Watson is doing his best to meet our wish.

At the same time as we received the pamphlet we received a copy of the following circular letter which has been sent—at least we suppose so by the internal evidence of Mr. Watson's first suggestion—to a number of secretaries of medical aid associations or sick clubs:—

[COPY.]

THE MEDICAL ASSOCIATION & FRIENDLY SOCIETIES.

Petworth, Sussex, March, 1907.

SIR,—It may have come to your notice that the medical profession are taking up the question of the pay given by various societies to their Medical Officer.

The P.P.F.S. are now experiencing the methods adopted by the Medical Press in order to secure their object: the M.O. of this society asked for higher pay: The Committee informed him that they could not advise the members to give it consequently (after 5 yrs. service) he resigned. A general meeting of the members was called & they endorsed the action of the Committee & decided to offer the appointment to a firm of doctors in the town who, on account of etiquette I presume, declined it: The Society then advertised the appointment: To their surprise the medical papers (LANCET and B.M.J.) declined to take the advt. the former paper giving 2 reasons for not doing so (1) The Editor had not seen the rules & (2) He had received an intimation that the appointment was not such as could be recommended to the Medical Profession.

The information came from the late Medical Officer and was based on incorrect data.

I will not add to the length of this letter by going through all the phases of this question but will ask you to be good enough to peruse this correspondence which I enclose (corres: with LANCET). The position of the P.P.F.S. now is this

(1) On no account will they reinstate their medical officer.

(2) The only other doctors (one firm) will not take the appointment.

(3) The Medical Press not only decline the advertisement but put the Society on their black list till they can screw them up to give such remuneration as in the opinion of the Medical Association is fair.

My object in addressing you is to ascertain your views on the following suggestions.

(1) That all the Friendly Societies of England should join in some concerted action in order to put down the tyranny of the Medical Press in preventing men (who by their thrift are saving the rates) from making their wants known to the Medical Profession through the medium of the Medical Press: Surely educated men are competent to fix or arrange their own salary with a club without the aid of a Union.

(2) It is impossible to fix a hard and fast line for the salaries of Medical Officers which can only be done by deciding each case on its merits, distance & other considerations having to be considered.

(3) There should be a co-operation of the various clubs within a given area & a doctor with a fixed salary appointed to attend so many clubs.

(4) A meeting of delegates within the area should meet and discuss the question.

If the above meet with the approval of your club I will be glad to arrange a meeting at some place to be agreed when the whole matter can be thoroughly gone into.

Yours faithfully,

H. E. WATSON.

We shall be interested to learn what developments follow. It is our tyranny apparently that is to be put down, and we are wondering how Mr. Watson is going to make us insert advertisements which we do not think are ethically correct.

APPARATUS FOR ELEVATING THE HIPS IN BED.

To the Editors of THE LANCET.

SIRS,—The principle advocated by Dr. E. G. Gilbert in THE LANCET of March 23rd, p. 817, to prevent a patient slipping downwards is correct, but if I may, as a layman, find fault with the way in which the result is secured I would venture to point to the wooden cross-bar on which the base of the spine (or the small of the back) rests, which on a non-yielding mattress would be hard enough, but in one that gives with the weight of the patient's body it would be torture; presumably this one does, or lying flat on his back as he is there depicted there would be no possibility of downward "creeping." Again, there is a similar bar across under the knees, and in a lesser degree the same criticism applies.

The Equipoise Company make a bed, referred to in your columns on a recent occasion (vol. i., 1906, pp. 236 and 307) of which the mattress frame is in three parts, back, seat, and leg rest. As the back rises the rear of the seat and foot end of the leg-rest decline, leaving the knees raised, the weight of the body being all the time fully supported by the woven-wire mattress, whilst, moreover, the seat being at an incline, it prevents any tendency towards slipping downwards; these positions are attained smoothly and without exertion by the patient or attendant and there are no cross-bars from head to foot in contact with the body, a great point in bedridden cases.

I am, Sirs, yours faithfully,

Ashford, Kent, March 26th, 1907. H. P. CLEMETSON

LIBERIA: ITS CLIMATE AND DISEASES.

Captain C. Braithwaite Wallis, British Consul at Monrovia, in his report on the trade, &c., of Liberia for the year 1906, just received at the Foreign Office, enters at some length into the question of the climate and diseases of the country.

In the Americo-Liberian settlements there are practically no drainage and little or no attempt at sanitation. The most trying seasons of the year are the beginning and end of the rains. At these times malarial fever of a severe type is prevalent and the Americo-Liberians suffer nearly as much from this disease as do Europeans. The aboriginal adult, however, although he suffers from malarial fever, seldom dies from it. A chief source of the spread of malarial fever amongst the inhabitants is by the bite of the infected anopheles. As the blood of nearly every native child has been found to contain malarial parasites it can be well understood how readily the disease is spread. From careful investigations made on the spot it has been found that anopheles caught in native villages invariably contained a large percentage of infected specimens.

The geographical distribution of malaria in Liberia is general owing to the anopheles existing probably throughout every part of the territories of the Republic. At Monrovia, owing to the number of stagnant ponds and pools, the anopheles abound. European merchants and others live, as a rule, in close vicinity of native houses. There has been no attempt here at segregation, and a high percentage of the European residents at Monrovia and the other ports on the Liberian coast are malarially infected. Every European dwelling-house illustrates the deadly practice of being surrounded by, or in the immediate vicinity of, numerous native huts and dwelling-places, which, as a rule, contain a certain number of children. The commencement and end of the rains are the unhealthy seasons because at these periods the anopheles are more prevalent. In the former case the larvæ are allowed to develop owing to the rainfall

being as yet insufficient to wash them away. On the other hand, as the rains lessen the drying pools and puddles become more numerous and more adapted for the hatching of the mosquito egg. The rainfall in Liberia so far as has been recorded—from September, 1904, to August, 1905—was registered at 153 inches. In the southern portion of the territories the rainfall does not appear to be so heavy. From the colony of Sierra Leone (which in 1901 registered 175·4 inches) southwards the rainfall seems gradually to diminish, for on the Gold Coast the average is only about 92. Probably Sierra Leone has the heaviest rainfall in tropical Africa, with Western Liberia ranking next. The climate of Liberia varies considerably, improving in proportion to the distance traversed from the littoral.

Owing to the want of sanitation, the difficulty of obtaining fresh food, the unpleasant surroundings, and the extreme humidity, the climate of Liberia is, apart from the prevalence of malarial fever, both dangerous and enervating to the health of Europeans. The European merchant has literally a struggle for existence. Moreover, his staff, if also European, are apt to become, after a little time, lethargic and anæmic, and require frequent trips to Europe. But his most assiduous enemy is malaria, coupled with the enervating influence of the climate. If he can succeed in avoiding the former his chances of success as a merchant in West Africa will be very much greater.

SHIPPING COMPANIES AND THEIR SURGEONS.

To the Editors of THE LANCET.

SIRS,—Can you spare the space to publish the following warning letter which has been sent to the secretaries of all the medical schools in Great Britain and Ireland, and which may be of interest to many of your readers, especially medical students and those who have recently qualified?

DEAR SIR,—During the past year or so stringent vaccination laws have been passed, affecting immigrants to various parts of the American continent and the West Indies.

Several shipping companies have endeavoured to make their surgeons do the extra work involved without any extra pay, including the filling in of certificates and counterfoils, and in many cases have refrained from giving any hint of this to intending ship surgeons.

Before a qualified man signs the articles of any ship going to *North, Central, or South America* he should carefully inquire what extra work is expected of him, apart from the health and sanitation of the ship itself, otherwise he may have disagreeable experiences as others have done.

Inclosed please find a copy of the more important clauses of the Argentine law, which gives a good idea of these vaccination laws generally.

If your medical school has a gazette perhaps you might kindly insert this warning letter. I am, Sirs, yours very truly,

MASTOID.

*** The following are the Argentine clauses referred to by our correspondent.—ED. L.

Vaccination Law in Argentina, promulgated June 25th, 1906.

1. That in future steamship agents at the port of embarkation inform *all 3rd-class* passengers for this country that they must be vaccinated or have been vaccinated within a period of seven years and must hold a certificate to this effect.

2. That passengers who have fulfilled these conditions should receive from *the ship's doctor* a special certificate to this effect, to be exhibited on arrival at this port.

3. That passengers who have not fulfilled Article No. 1 should be vaccinated by *the ship's doctor* who will issue them a certificate to that effect.

4. That the steamship companies deliver to the Health Board on the arrival at this port of each ship, together *with the counterfoils* of certificates issued, a list of passengers who have not complied with Articles Nos. 1 and 3.

5. That 3rd class passengers to which Article 4 refers, who have not been vaccinated before embarkation or during the voyage, be vaccinated immediately on arrival by a doctor of the Immigration Department.

6. That the Health Board examine on arrival certificates issued *by ship's doctor*, and obtain the *counterfoils for statistical* purposes, handing over list of persons subject to vaccination on arrival, to the Medical Board of the Immigration Department.

7. That persons resisting vaccination on shore will be punished under Article No. 2 of Law No. 4202.

THE HEALTH OF THE PEOPLE OF INDIA.

WE have received a printed "copy of an open letter addressed to the Right Hon. Mr. John Morley, Secretary of State for India," dealing with the subject of the improvement of the Medical and Sanitary Departments of India and praying for an inquiry into their working The circumstances which led to its publication, and to the Secretary of State for India being addressed through the form of an open letter, are fully set forth in the pamphlet, and indications are given of the many points which, in the opinion of the author—Mr. Sam Manikam, founder and agent, South Indian Railway Mission—loudly call for reform and improvement. We have read the pamphlet. The subjects touched upon cover a wide field and presuppose a knowledge of the alleged facts as well as acquaintance with the hospital routine of India.

THE "KNOCK-OUT" BLOW.

A CORRESPONDENT signing himself "Glove" is anxious to know the explanation of the "knock-out" blow. We do not know that the absolute physiology of the effect of the blow has ever been settled but we believe the result to be caused mainly by two factors. The one is the shock transmitted to the base of the brain by the rami of the lower jaw acting through the thin plate of the temporal bone, and the other is that the head is driven violently backwards, thus giving a shock to the medulla by a stretching of the spinal cord.

"ALGIRON."

Messrs. Evans, Sons, Lescher, and Webb, Limited, of 60, Bartholomew Close, London, E.C., announce that their preparation hitherto known as "Alginoid Iron" (Stanford) will be called henceforth by the name of "Algiron." As we have already pointed out this substance consists of a compound of alginic acid (from algæ or seaweed) with iron. The salt is said to present a form of iron readily absorbed into the system without giving rise to the disturbances which follow the administration of ordinary iron salts.

F. E. H.—A witness can claim to be paid before he is sworn, but if he is sworn before making the claim he must then give evidence and take his chance of being paid.

L. L.—The official title is medical officer. We cannot pronounce upon the legality or otherwise of a Poor-law medical officer signing himself medical superintendent.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (17th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (18th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, (1.30 P.M.), Royal Orthopædic (9 A.M.), Tottenham (Gynæcological, 2.30 P.M.), Gt. Ormond-street (2.30 P.M.).

FRIDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (20th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (16th).—THERAPEUTICAL SOCIETY (Apothecaries' Hall, Blackfriars, E.C.).—4.30 P.M.: Papers:—Dr. G. Oliver: Some Notes on the Control of Hypernormal Blood Pressure.—Dr. J. Burnet: The Decline of Prescription Writing: Some of its Dangers and Ultimate Results.

MEDICO-LEGAL SOCIETY (22, Albemarle-street, W.).—8.30 P.M.: (1) Three Cases of Fatal Poisoning by Strychnine; (2) A Fatal Case of Poisoning by Bichromate of Potassium (reported by Prof. H. Littlejohn).—A Case of Poisoning by Oxalic Acid (reported by Dr. S. Tebb).

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN (17, Bloomsbury-square, W.C.).—8 P.M.: Paper:—Mr. J. Humphrey: The Compendium of Medicines, its Plan and Scope.
PATHOLOGICAL SOCIETY OF LONDON.—Meeting postponed.
WEDNESDAY (17th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M.: Exhibition of Slides of Foraminifera by Mr. A. Earland. Paper:—Mr. R. M. Nelson: On the Podura Scale.
THURSDAY (18th).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W.).—8.30 P.M.: Papers:—Mr. Jaffrey: A Case of Ulcerative Colitis treated by Operation under the care of Dr. Latham and Mr. Jaffrey.—Dr. L. G. Guthrie: Some Nervous Affections of Childhood.
FRIDAY (19th).—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (11, Chandos-street, Cavendish-square, W.).—5 P.M.: Clinical Evening for the Exhibition of Cases followed by Discussion. Patients in attendance at 4.30 P.M.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (15th).—POST-GRADUATE COLLEGE (West London Hospital Hammersmith road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations.
MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. S. E. Dore: Cliniques. (Skin.) 5.15 P.M.: Lecture:—Dr. H. Campbell: Observations on Treatment.
NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—Cliniques:—9.30 A.M.: Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Medical Out-patient (Dr. Whipham), Throat, Nose, and Ear (Mr. Carson); X Ray (Dr. Pirie).
TUESDAY (16th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin.
MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. J. E. Squire: Clinique. (Medical.) 5.15 P.M.: Lecture:—Mr. W. H. Clayton-Greene: Retention of Urine.
NORTH-EAST LONDON POST GRADUATE COLLEGE (Tottenham Hospital, N.).—Cliniques:—10.30 A.M.: Medical Out-patient (Dr. Auld). 2.30 P.M.: Gynæcological Out-patient (Dr. Giles), Surgical Out-patient (Mr. Edmunds). Surgical Operations (Mr. Carson).
WEDNESDAY (17th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations. Dr. D. Robinson: Diseases of Women.
MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. L. Mummery: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. N. Tirard: Some Forms of Pneumonia.
NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—Cliniques:—2.30 P.M.: Skin (Dr. Meachen), Eye (Mr. Brooks), Medical Out-patient (Dr. Whipham).
THURSDAY (18th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations.
MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Mr. R. Clarke: The Fundus Oculi in Health and Disease (with lantern slides).
NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—2.30 P.M.: Gynæcological Operations (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting), Surgical Out-patient (Mr. Carson). 3 P.M.: Medical In-patient (Dr. Chappel).
FRIDAY (19th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. Dr. Ball: Diseases of the Throat, Nose, and Ear. X Rays. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin.
MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. M. Yearsley: Clinique. (Ear.)
NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—9.30 A.M.: Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld), Eye (Mr. Brooks). 3 P.M.: Medical In-patient (Dr. Leslie).
ROYAL INSTITUTION OF GREAT BRITAIN (Albemarle-street, W.).—9 P.M. Prof. C. S. Sherrington: Nerve as a Master of Muscle.
SATURDAY (20th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations. Dr. D. Robinson: Diseases of Women.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 11th, 1907.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
April 5	29·60	N.	...	95	57	41	43	45	Cloudy
,, 6	29·37	W.	0·05	107	59	45	46	47	Cloudy
,, 7	29·36	W.	0·55	103	51	35	38	39	Raining
,, 8	29·43	S.W.	0·37	83	54	39	43	43	Overcast
,, 9	29·54	W.	0·06	60	50	43	44	45	Overcast
,, 10	29·79	N.E.	0·06	55	50	42	43	44	Fine
,, 11	29·78	E.	0·01	55	46	40	42	43	Overcast

During the week marked copies of the following newspapers have been received:—*Western Mail, Peterborough and Hunts Standard, Chatham, Rochester and Gillingham News, Standard, Daily News, Daily Chronicle, Belfast News, Daily Mail, Tribune, Norwich Eastern Daily Press, Hull Eastern Morning News, Hampstead Express, South London Press, Morning Post, Preston Guardian, Durham Chronicle, Bury Guardian, Daily Express, &c.*

Communications, Letters, &c., have been received from—

A.—Mr. R. J. Albery, Lond.; A. Z.; The Atlantic Union, Lond., Hon. Secretary of; Anglo-American Pharmaceutical Co., Croydon; A Modest Practitioner; Messrs. Amsler, Rilliet, and Co., Bad Schinznach, Switzerland; Ajax Sanitary Co., Lond.; Dr. F. P. Atkinson, Bexhill-on-Sea; Mr. F. W. Alexander, Lond.

B.—Mr. A. E. Barclay, Manchester; Messrs. C. Bogler and Co., Lond.; Mr. W. G. Burcombe, Lincoln; Bury Dispensary, Secretary of; Mr. Samuel Bagley, Leicester; Mr. J. Scott Battams, Lond.; Colonel David Bruce, R.A.M.C., Lond.; Mr. T. B. Browne, Lond.; Bristol General Hospital, Secretary of; Major R. J. Blackham, R.A.M.C., Devonport; British Temperance League, Sheffield; Mr. E. Stanmore Bishop, Manchester; Mr. Frank S. Betz, Hammond, Indiana, U.S.A.; Mr. John H. Bowson, Lond.; Dr. P. B. Bennie, Fitzroy, Australia; Mr. C. Birchall, Liverpool; Mr. J. W. Benson, Lond.; Mr. Albert Benthall, Lond.; Dr. Francis Bond, Gloucester; Surgeon-Major W. H. Black, Edinburgh.

C.—Dr. J. Walter Carr, Lond.; Dr. Harry Campbell, Lond.; Dr. G. A. Crace-Calvert, Ruthin; Mr. J. Cofman, Lond.; C. H.; Mr. J. H. Clements, Watchet; Dr. T. F. S. Caverhill, Edinburgh; Messrs. Callard and Co., Lond.; The Century Press, Lond.

D.—Mr. G. Dickinson, Lond.; Mr. N. R. Dharmavir, Padiham; District Asylum, Cupar Fife; Mr. Alexander Duke, Lond.; Devonshire Hospital, Buxton, Secretary of; Mr. F. Deas, Merton.

E.—The Edinburgh Life Office, Edinburgh, Manager of; Equitable Life Assurance Society, Lond.; Miss Evers, Boscombe; Mr. W. J. Evans, Bournemouth; Messrs. Evans, Gadd, and Co., Exeter; Enquirer.

F.—Messrs. Fromy, Rogée, and Co., St. Jean d'Angely, France; Messrs. Fairchild Bros. and Foster, Lond.; Mr. Hugo Frey, Vienna.

G.—Mr. T. U. Gray, Lond.; Glen Manufacturing Co., Lond.

H.—Dr. Stanley Hodgson, Salford; Messrs. Heywood and Co., Lond.; Mr. Charles J. Heath, Lond.; Mr. E. Horsley, Grasmere; Dr. F. de Havilland Hall, Lond.; Dr. S. M. Hamill, Burnham Market; H. E.

I.—Invalid Children's Aid Association, Lond., Secretary of; In Vino Veritas.

J.—Mr. F. B. Jessett, Lond.; Mr. A. E. Johnson, Manchester; J. G. S. F.; J. A. A.; J. J.; Walter Judd, Ltd., Lond.

K.—Messrs. Keele and Co., Lond.; Dr. John Knight, Scarborough; Messrs. R. A. Knight and Co., Lond.

L.—Mr. H. K. Lewis, Lond.; Leeds Hospital for Women and Children, Secretary of; Liverpool Stanley Hospital, Secretary of; Dr. H. Willoughby Lyle, Lond.; Mr. J. I. Langley, Seabrook; Legal and General Life Assurance Office, Lond.; Mr. T. P. Legg, Lond.; Lancashire County Asylum, Winwick, Clerk of.

M.—Mr. H. E. Meyer, Lond.; Mr. James MacMunn, Lond.; Mr. R. Mosse, Berlin; Mr. R. W. Merrick, Bournemouth; Messrs. Maple and Co., Lond.; Dr. E. Mozourelli, Mitylene; Dr. C. Mercier, Catford; Dr. W. C. McClelland, Ballarat; Monkwearmouth and Southwick Hospital, Secretary of; Margate Chamber of Commerce, Secretary of; Mr. W. Nicholas Miller, Lond.; Manchester Hospital for Consumption, Secretary of; Mr. S. B. Mason, Pontypool.

N.—Dr. David Newman, Glasgow; Newport and Monmouthshire Hospital, Secretary of; North Riding Infirmary, Middlesbrough; N. C.; Mr. H. Needes, Lond.; Mr. J. C. Needes, Lond.; Dr. Athelstane Nobbs, Lond.

P.—Mr. Y. J. Pentland, Edinburgh; Dr. D. C. Pearson, Quorn; Dr. S. D. Paraskevopulos, Tripolitza, Greece; Mr. J. H. Peet, Fleet; Messrs. Peacock and Hadley, Lond.

R.—Mr. F. W. Forbes Ross, Lond.; Dr. Robert R. Rentoul, Lond.; Dr. James A. Rigby, Preston; Mr. A. W. Roberts, Torquay; Dr. W. Ford Robertson, Edinburgh; Rover Co., Coventry; Dr. J. D. Rolleston, Lond.; Mr. W. Pierpoint Roberts, Paignton; Captain Leonard Rogers, I.M.S., Isleworth; Royal Ear Hospital, Lond., Secretary of; Messrs. Reynolds and Branson, Leeds.

S.—Mr. Ernest Scholl, Lond.; Mr. Arnold Statham, [illegible]nd.; Dr. A. H. Spicer, Potw[illegible]; Dr. C. J. Shaw, Montros[illegible]; Swift Motor Co., Coventry; Dr. J. Snowman, Lond.; Messrs. W. H. Smith and Son, Manchester; Sussex County Hospital, Brighton, Secretary of; Seltzogene Patent Charges Co., St. Helen's; *South Wales Argus*, Newport, Monmouthshire; Dr. W. C. Sullivan, Lond.; Seamen's Hospital Society, Lond., Secretary of; Professor Seeley, Lond.; Mr. F. A. Southam, Manchester; Mr. J. F. Spriggs, Lond.

T.—Mr. W. Tibbles, Nottingham; Dr. F. S. Toogood, Lond.; Dr. Edgar Trevithick, Cheltenham; Mr. J. Lynn Thomas, Cardiff; Captain W. Tyndale, R.A.M.C., Hampton-on-Thames; Tottenham Hospital, Secretary of.

U.—University College, Bristol, Registrar of; University of London Conservative Association; University of Glasgow, Clerk of Senate of.

W.—Mr. J. Williams, Bradford; Mr. J. Ward, Lond.; Messrs. W. Wood and Co., New York; Messrs. Angus Watson and Co., Newcastle-upon-Tyne; Messrs. W. J. Wilcox and Co., Lond.; Mr. H. Wilson Walker, Leeds; Mr. Ernest B. Williams, Bridport; Messrs. John Wiley and Sons, New York; Walsall and District Hospital, Secretary of; Dr. Howell H. White, Corwen; Mr. H. C. Wilkins, Coventry; Mrs. Wiseman, Lond.; Mr. Griffin Wilkes, Birmingham.

Y.—Dr. Eugene S. Yonge, Manchester.

Z.—Messrs. A. and M. Zimmermann, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Messrs. Allen and Hanburys, Lond.; A. L.; Messrs. C. Ash, Sons, and Co., Lond.

B.—Mr. G. W. Baker, Beeston; Mr. A. J. Bulger, Ettingshall; Mr. T. D. Berry, Taunton; Benger's Food, Ltd., Manchester; Rev. L. Buxton, St. Albans; Mr. H. Butterfield, Northampton; Dr. W. Bethune, St. Tudy; Mrs. B.; Mr. E. Blackett, Lond.; Mr. F. N. Brown, Frimley; Mr. R. L. Butler, Lond.; Messrs. J. Broadbent and Co., Huddersfield; Mrs. Boden, Derby; Messrs. T. B. Browne, Lond.

C.—Rev. W. Cleveland, Selby; Messrs. Crossley and Co., Lond.; Cannon Brewery, Watford; Mr. T. Culleton, Lond.; C. W., Maida Vale; B. B. M.; Messrs. B. T. Croughton and Co., Lond.; Messrs. Cornish Bros., Birmingham.

D.—Derby Corporation, Borough Accountant of.

E.—Nurse Eva, Lond; E. N. K.

F.—Mr. E. W. Forster, Torquay; Messrs. Fooks, Chadwick, Arnold, and Chadwick, Lond.; Mr. G. Finch, Meonstoke; Messrs. Ferris and Co., Bristol.

G.—Mr. H. J. Glaisher, Lond.; Messrs. Gould and Portman, Lond.; G. G. L. K.

H.—Mr. G. R. Hyde, Mullingar; Miss Clara Hind, Ockley; Mr. T. H. Hannigan, Pallaskenry; Mr. R. Hutchinson, Lond.; Mr. A. C. Huckstepp, Birmingham; H. H. J.; Dr. W. Hunter, Lond.

I.—Dr. J. Inglis, St. Leonards-on-Sea; International News Co., Lond.

J.—J. A. L., J. H. M. M.; Messrs. W. and A. K. Johnston, Edinburgh; J. R. W.; J. W. L.; Messrs. Jacob and Johnson, Winchester; J. W.; J. F. W.

K.—Messrs. H. and T. Kirby and Co., Lond.

L.—Dr. M. R. Leicester, Penryn; Mr. C. B. Lockwood, Lond.; Locum, Leicester; Mr. R. Lake, Lond.; Locum, Coldharbour-lane; Mr. L. J. Levi, Lond.

M.—Dr. G. Metcalfe, Skelmersdale; Mr. E. Merck, Lond.; Dr. J. L. D. Morison, Lugano; Mr. J. E. May, Lond.; Messrs. C. Mitchell and Co., Lond.; Messrs. May and Rowden, Lond.; Messrs. May, Roberts, and Co., Lond.; Messrs. F. Mundy, Gilbert, and Co., Birmingham; Manchester Medical Agency, Secretary of; M. B.

N.—Northern Medical Association, Glasgow; Dr. Nery, Lond.

O.—Dr. E. Lloyd Owen, Mostyn.

P.—Mr. D. B. Powell, Lond.; Mr. H. W. Pank, Market Rasen; Messrs. Pratt and Co., Lond.; Mr. B. L. Powne, Chard; Miss R. Parry, Lond.

R.—Mr. R. P. Rowlands, Lond.; Richmond Royal Hospital, Secretary of; Mr. H. Powell Rees, Lond.; Mr. R. A. Ross, Stair-drop.

S.—Dr. C. W. Salesby, Lond.; Messrs. Street and Co. Lond.; Mr. D. Spillane, Lond.; S. F.; Messrs. Spiers and Pond, Lond.; Dr. R. H. Scholefield, Ravensthorpe; Messrs. G. Street and Co., Lond.; S. D. S.

T.—Dr. M. H. Taylor, Johnstone; Mr. P. Templeton, Worthing; Professor J. J. Thomson, Cambridge; Mr. J. Thin, Edinburgh.

W.—Mr. W. A. Wharram, Leeds; Mr. R. S. Weymouth, Lond.; Dr. W. A. White, Washington; Wolverhampton and Staffordshire General Hospital, Secretary of; Mr. A. E. Wellesley-Garrett, Lond.; W. W. S.; Dr. J. R. Hall Walker, Haverhill; Mr. A. M. Watkins, Whitechurch, Salop; Whitehaven Infirmary, Secretary of.

EVERY FRIDAY. **THE LANCET.** PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0 5 0
Official and General Announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements and Situations Vacant	Ditto	0 4 6
	Every additional Line	0 0 6

Situations wanted: First 30 words, 2s. 6d.; per additional 8 words, 6d.

Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Cheque and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France.—J. ATTIER, 31, Rue Bapts, Asnieres, Paris!